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THE INDICATION OF NEPHROSTOMY PRELIMINARY TO URETERO-RECTONEOSTOMY

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The transplantation of ureters into the bowel is regarded as justifiable in a relatively small group of cases. Freed from the many dang[illegible] [illegible]oth immediate and remote, the applicability wo[illegible] immediately to a respectable figure. As it [illegible] procedure may be used only as a desperate means of relief of last resort.

The widest application has been in exstrophy of the bladder and similar anomalies, and no doubt a short life of continence and comfort is preferable to the shorter one of pain and misery inevitable to the unfortunate children born with this deformity. Yet ureterorectal transplantation for exstrophy is not an ideal surgical procedure nor ever will be even if freed from its present dangers. Such an individual is at once removed from the service of modern urologic methods, well illustrated by a patient of my own who had lived six years comfortably with the ureter of the only remaining kidney emptying into the rectum when she was suddenly taken with fever without localizing symptoms. She lived in the country and did not come in until in the early stage of uremia. Even then had we been able to catheterize the ureter and apply preparatory catheter treatment, the kidney most probably could have been reactivated. Roentgen-ray examination showed a suspicious shadow, a[illegible] the exploratory operation with removal of a large stone that completely blocked the upper ureter failed to relieve the anuria. The case shows how intestinal transplantation ties our hands in recognizing and caring for subsequent renal complications and, if for no other reason, renders ureterorectoneostomy for exstrophy objectionable. A surgical victory over this defect is inevitable, but there can be none without restoration to near normal relationships. What has been done for cleft palate is possible for cleft symphysis. Orthopedic measures must be applied. The prolonged tedious and continuously applied methods of straightening teeth and jaws should serve as an example and stimulus. The difficulty is largely that we each get too few patients to work with, the majority of whom are too poor to stand the expense of years of treatment and the rest unwilling. Two patients that were started on this plan by me went across town and had ureters transplanted. The suggestions of Hugh H. Young [1] and of J. E. Burns [2] are hopeful.

TRANSPLANTATION OF URETERS IN ACQUIRED CONDITIONS

Certain acquired conditions form another group in which transplantation of the ureters or ureter sometimes becomes a necessity or is desired in order properly to complete other operative measures. Cancer of the bladder may be so extensive as to necessitate total cystectomy in order to offer any hope of cure, thus requiring the transplantation of the ureters to the skin or rectum. And tuberculosis of the bladder is often found to be progressive even after the one tuberculous kidney has been removed, rendering the patient miserable because of pain and frequency, and, what is more serious, sometimes leading to a progressive destruction of the remaining kidney by hydronephrosis through constriction of the vesical end of the ureter. We have had three such cases treated for long periods to relieve the bladder infection without benefit, during which time kidney function was seen to fall gradually, in one case to 5 per cent in two hours, through back pressure destruction. All attempts to dilate the lower ureter were unsuccessful. In all three of these cases the ureter has been successfully transplanted to the rectum. One patient, mentioned above, lived six years in comfort and cleanliness and then died of the stone complication. A necropsy found that the ureterorectal transplant was in perfect condition, that the rectal mucosa was of normal appearance (fig. 1) and that the kidney pelvis was not dilated beyond what would be expected from the stone obstruction that had been a secondary complication. The kidney itself appeared unusually well preserved (fig. 2). At the time of transplantation the ureter was markedly dilated and at necropsy it was found that this condition had not shown any material shrinkage. This is to be expected from results that have been obtained experimentally. A ligature placed at the lower end of the ureter in experimental hydronephrosis causes a progressively developing hydro-ureter. In the repair experiments in which this hydro-ureter was retransplanted to the bladder with renal repair there was marked shrinkage of the kidney with retention of the kidney shape, but little change subsequently in the hypertrophied and dilated ureter.

It was also noted in these studies that when an experimental animal which had had one ureter completely ligated was opened, the hydro-ureter showed active peristalsis on the slightest stimulation, even in those advanced stages of complete hydronephrotic atrophy. But in those cases of secondary atrophy and not of repair following the ureterocystoneostomy the ureter is found also to undergo shrinkage and atrophy, and this would seem to be largely a disuse atrophy. In another case in every way similar to the foregoing, the patient lived over two years and died of a complicating bilateral pneumonia unrelated to his urinary condition.

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[1] Young, H. H., in discussion on Bottomley, J. T. Exstrophy of the Bladder, J. A. M. A. **49**: 167 (July 13) 1907; Modern Urology, Philadelphia, W. B. Saunders Company, to be published.

[2] Burns, J. E.: A New Operation for Exstrophy of the Bladder, J. A. M. A. **82**: 1587-1590 (May 17) 1924.

A phenolsulphonphthalein test by rectum done just a few weeks previously showed a 45 per cent output. Unfortunately, in this case a postmortem examination was not obtained. In a third case the hydro-ureter of the remaining nontuberculous kidney, already hydronephrotic from the obstruction at the vesical end of the ureter, as a result of the constriction of the tuberculous bladder, has been transplanted to the rectum within the last few months. In this last case preliminary nephrostomy was performed, a discussion of the advisability of which is my object in this communication. At the time of this nephrostomy, careful inspection of the kidney showed no evidence of any tuberculosis. The finding at necropsy (case 1) and at operation (case 3) of a hydronephrosis without tuberculosis is solid food for thought. Statistics tell us that in renal tuberculosis nephrectomy before vesical involvement is curative in practically 100 per cent, but after vesical ulcers have appeared, in only about 60 per cent. This finding raises the question of whether a good proportion of the 40 per cent that succumb following nephrectomy for renal tuberculosis do not die because of a progressive hydronephrosis of the remaining kidney from obstruction due to the progressive contracture and fibrosis of the badly infected bladder. It also raises the question as to whether a preliminary nephrostomy alone might be of benefit in these cases in putting the bladder at rest. Subsequent ureterorectal transplantation might not then be required.

CANCER OF UTERUS

Cancer of the uterus may be so located as to spread early to neighboring organs such as the rectum and bladder, and in order to do a radical resection of the cancer it would sometimes be necessary to sacrifice both bladder and rectum. The ureters are sometimes unintentionally injured or resected, and the usual procedure has been to tie off the ureter if recognized at the time, or do a nephrectomy later to close the urinary fistula, if only one has been injured. Were uretero-intestinal transplantation feasible, much more radical operations on both the uterus and bladder would be possible. A large vesicovaginal fistula subsequent to hysterectomy and the use of radium for an extensive cancer of the cervix came to us within the last few years for repair. On the first examination, fragments taken from the area failed to show any evidence of malignancy and it was thought that the fistula was largely the result of the radium burn. An attempt to close the fistula in the usual manner resulted in failure. The patient returned several months later and it was found that the opening was larger than on the previous entrance, pain was much more severe, and all the urine dribbled into the vagina; curettings from the area showed definite malignancy. Careful roentgen-ray and other studies failed to show any evidence of metastases to any distant point. After consultation with the general surgeons and gynecologists, it was decided that the only relief to be offered would be by ureterorectal transplantation and then, should progress of the case justify it, a more radical resection of the involved area of the pelvis could be done. The right ureter, which was considerably dilated, was first transplanted. The patient's convalescence was complicated by pronounced nausea and vomiting without fever or abdominal distention, counteracted only by a retention duodenal tube; but without any other apparent complications she gradually failed and died on the thirteenth day after operation. A complete necropsy failed to show any evidence of metastases from the primary site of growth, which, however, was quite extensive, involving the bladder and the vagina, but not the rectum. The ureteral transplant was apparently in good condition and quite patent, and there was no ascending infection to the kidney nor any local peritonitis. Urinary drainage through the rectum had been noted before death. No cause for death other than alkalosis could be given.

OTHER CONDITIONS IN PELVIS

There are other surgical and pathologic conditions in the pelvis and about the lower end of the ureters in which either accidentally or purposely unilateral partial resection or destruction occurs, and in these conditions retransplantation to the rectum would be indicated, provided the procedure were safe, in preference to simply tying off the ureter or performing nephrectomy. In one case of our own of extensive tuberculosis of the seminal vesicles, the ureter on the left side was accidentally injured in removal of the large tuberculous vesicle on this side. Urinary fistula resulted, and the question arose as to what should be done with this open ureteral end. With partial or complete closure of the drainage tract, rise of temperature and pain would occur, relieved only by the removal of the obstruction by dilation or curettage of the urinary fistula. Urologic study showed that the opposite kidney was perfectly normal and was gradually undergoing compensatory hypertrophy. Several cystoscopic examinations showed that the bladder was absolutely clear and that there was no opening or rupture of the bladder that would account for the urinary drainage through the perineum. At no time was one able to catheterize the left side, the side on which the ureter had been either cut or injured. Finally nephrectomy was decided on as the safest procedure, and it was found after removal that this kidney showed an early, rather acute type of tuberculosis and there was definite evidence of ascending infection. We have seen a number of similar cases in consultation with gynecologists in which the lower end of the ureter has been accidentally injured or resected, in which if unilateral the course is similar to that of the foregoing case. In most of these cases, nephrectomy later has seemed the advisable method of procedure. It is rarely possible to bring the ureter to the bladder for ureterocystoneostomy and usually impossible to bring the divided ureteral ends together for suture. This subject is of particular interest in view of the general controversy as to the result of complete ureteral ligature in man, most textbooks and many eminent surgeons stating definitely that there will be no bad effects but that if the ureter is completely tied the kidney will undergo a silent primary atrophy. This is in direct opposition to all experimental results, and clinical facts definitely refute it. Hydronephrosis will almost invariably result although a secondary atrophy may subsequently develop; but this secondary atrophy is an entirely different thing from a primary atrophy. Of seventeen cases of ureteral ligation in which the kidney was later examined, fourteen showed a definite hydronephrosis, and of sixty-four cases of ligation of one ureter reported in the literature, only twenty patients are said to have later experienced no discomfort or deformity.[3]

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[3] Hinman, Frank: An Experimental Study of the Pathogenesis of Hydronephrosis, Surg. Clin. N. America, to be published

CANCER OF PROSTATE

The success of Coffey[4] in the radical resection of the rectum for cancer raises the question whether our treatment of cancer of the prostate has been sufficiently radical. It is the exception to see cancer of the prostate early enough to permit the radical operation of Young or Geraghty's modification. With the urine safely diverted elsewhere, the prostate, seminal vesicles, bladder and the pelvic lymphatics of primary drainage from the prostate could be easily removed *en masse*. Except for the pudic and sacral branches, which arise highest and could easily be preserved, the whole anterior division of the internal iliac artery and vein could be ligated at the time of ureteral implantation, which would render quite easy the later perineal resection of the whole mass. At the time of the ureteral transplantation it would of course be advisable to free the bladder thoroughly and leave in suprapubic drains. An unsuccessful attempt to perform this procedure does not disprove its logic in a properly indicated case. This failure was in a man of good general health and strong constitution who had quite an extensive carcinoma of the prostate that spread well up to the base of the bladder, involving both seminal vesicles but in whom evidence of general metastasis was absent. Radium in heroic doses had been tried for a number of months without any apparent effect on the spread of the growth. He suffered considerably even on the retention catheter. His kidney function was normal. He was quite anxious when the situation had been thoroughly explained to him to have the operation outlined above done. Following the transplantation of the right ureter, he developed an acute bronchopneumonia and died. At necropsy no metastases were found, the transplant was in good condition except that there was some localized peritonitis, and he had an extensive bronchopneumonia. Had we known as much then as now about intestinal transplantation, his chances would have been materially improved.

So far as indication for performing ureterorectoneostomy is concerned, the advantage of being able to divert the urine safely is at once apparent for a great deal of the radical surgery of many pelvic conditions.

ADVANTAGES OF THIS SITE OF TRANSPLANTATION

Leaving for discussion later the technical difficulties and dangers of ureterorectal transplantation, it is well to be convinced that this site of transplantation is preferable to any other. The miserable condition of exstrophy patients has been the motive for many different attempts of plastic repair. No mechanical device intended to protect the sensitive exposed mucous membrane and to collect the urine has been satisfactory, so that ever since Simon[5] in 1815 first suggested implantation of the ureters for exstrophy, an amazing number of different types of operation have been suggested. Aside from implanting the ureter directly into the bowel, isolated pieces of uninfected small intestine with the idea it would serve as a bladder, the use of the vagina or gallbladder for the same purpose or resection of the intestine low in the rectum and making a double outlet in the sphincter ani, one for urine and the other for feces, have been at various times attempted but have all failed as a result of the stasis of urine inherent in any of these procedures. Transplantation to the skin carries the objection of the necessity of wearing some kind of collecting device, and in the great majority of these cases also stricture formation and ascending infections are frequent. The most successful type of skin transplantation has been nephrostomy, in which a suitable apparatus can be fastened to the back and the urine collected by tubes that lead around to the front so that the patient can empty the artificial bladder as in a normal manner.

Young[6] has himself highly recommended nephrostomy in indicated conditions. As a permanent procedure it of course is not equal to intestinal transplantation, which gives continence, provided the dangers of the latter can be surmounted. There are good reasons why the rectum is the preferable site for direct implantation. The cloaca of amphibia, reptiles and birds forms the common receptacle for urine and feces, and the lowest subclass of mammals have the same condition. It has even been reported as an anomaly in the human fetus.[7] Fowler[8] has emphasized the physiologic significance of an empty rectum in the normal state between the acts of defecation, as pointed out by O'Beirne,[9] but these observations have not been entirely confirmed. However, in those cases in which ureters have been transplanted into the rectum there may be formed for all practical purposes two receptacles, the sigmoid for the storage of feces and the rectum for that of the urine acting only as a temporary receptacle for feces. Alvarez[10] has suggested that in these cases the irritation through accumulation of urine in the rectum may arrest the normal downward movement of feces sufficiently to cause a fecal collection in the transverse colon until that time in which the colonic irritation predominates and rushes the feces out in a bowel movement. Alvarez also regards the stormy sigmoid as unfit for ureteral implantation, as it is a free and very motile stretch of bowel. It worked very successfully, however, in case 1 (fig. 1). All things considered, the rectum is the preferable part of the bowel for implantation. Skin transplants have the objection of not providing continence and do not sufficiently reduce the dangers of obstruction from stricture or of ascending infection.

DIFFICULTIES

The difficulties of successful intestinal implantation of the ureter are both inherent and technical, and immediate and remote. The inherent objections are the placing of ureters into a continuously and highly infected field and in a position that removes them from subsequent treatment and study by urologic methods. The technical difficulties of immediate significance are not so great but that they can be overcome. The spread of infection, peritonitis, fecal fistula are dangers that are now little to be feared, thanks to Coffey's[11] suggestions. The obstruction from the immediate edema at the site of implantation unless means of protection are taken may lead to an acute and early ascending pyelonephritis or anuria, which has been guarded against heretofore by transplanting one ureter at a time. This temporary obstruction, however, is a real danger when there is only one kidney and it otherwise necessitates two operations which for some of the conditions, as indicated above, is considerable of a burden in preparation for the final operation. It means three major operations, the third and last the hardest. The remote dangers are obviously those of a pyelonephritis and of stricture or other obstruction leading to destruction by hydronephrosis or secondary atrophy. Most of these difficulties could easily be removed by implantation of the ureter into the sterile small intestine, but this is prohibitive because of complete urinary reabsorption.[12] The propriety and risk at any time of ureterorectoneostomy is brought home by this problem: Given an individual with two healthy kidneys, the lower ureter of one of which has been accidentally injured or cut necessitating transplantation, ligature or nephrectomy, which would you choose?

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[4] Coffey, R. C.: Treatment of Cancer of the Rectum, Ann. Surg. **76**: 500-514 (Oct.) 1922.

[5] Simon, J.: *Ectopia Vesicae: Operation for Directing the Orifices of the Ureters into the Rectum; Temporary Success; Subsequent Death; Autopsy*, Lancet **2**: 568-570, 1852; Congenital Imperfection of the Urinary Organs Treated by Operation, Tr. Path. Soc. London **6**: 256-258, 1855.

[6] Young, H. H.: Text-Book of Modern Urology, Philadelphia, W. B. Saunders Company, to be published.

[7] Gerster, cited by Kelly and Burnam, in Diseases of the Kidneys, Ureter and Bladder **2**: 348, 1914. Richardson: Phil. Tr. Roy. Soc. London, abridged **6**: 45, 1809; No. 337, article 18, p. 167.

[8] Fowler, G. R.: Implantation of the Ureters into the Rectum in Exstrophy of the Bladder, with a Description of a New Method of Operation, Am. J. M. Sc. **115**: 270-276, 1898.

[9] O'Beirne, cited by Fowler (footnote 8).

[10] Alvarez: Personal communication to the author.

[11] Coffey, R. C.: Physiologic Implantation of the Severed Ureter or Common Bile Duct into the Intestine, J. A. M. A. **56**: 397-403 (Feb. 11) 1911; and from recent address before the Academy of Medicine, San Francisco, and personal communications to the author.

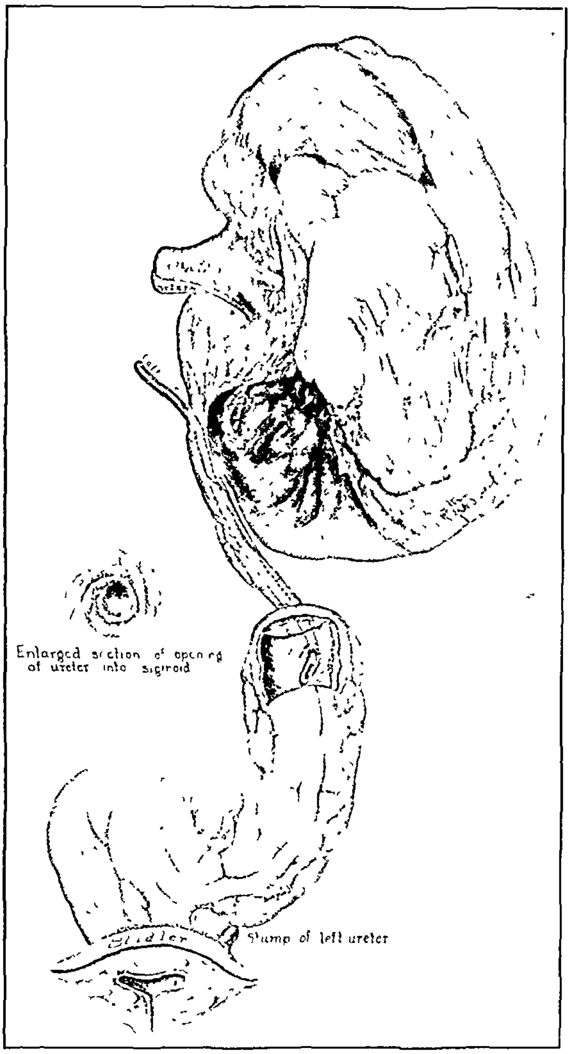

Fig. 1—Finding at necropsy in case 1, six years after ureterosigmoidoneostomy: The ureteral opening in the bowel is in perfect condition and quite patent The ureter was still dilated as about at time of transplantation. The stone that had produced the anuria causing death was located at the ureteropelvic juncture Kidney showed moderate hydronephrosis, probably more the effect of the stone blockage.

DEVELOPMENT OF TECHNIC

In the particular technic of transplantation, the greatest progress has come within the last few years. The surgical problem is to remove the dangers as just mentioned and be able to transplant the two ureters at one operation, which would be a big advantage if safe. It was in 1815 that Simon[5] first suggested the advisability of uretero-intestinal transplantation, but the procedure has never been general. Smith,[13] in 1879, advocated a carefully planned surgical procedure unsuccessfully, and no greater success was obtained by such eminent men as Trendelenburg.[14] A great stimulus came from Tuffier's[15] suggestion of implanting the ureter with its normal sphincter intact, a procedure practically applied by Maydl[16] in 1892 and rather widely made use of since, though not much within recent years. Anastomotic buttons after the manner of intestinal anastomosis have also been variously tried, notably by Frank[17] and Boari.[18] The modern method really started with Fowler's[8] suggestion in 1898, with the attempt to form a sphincter with valve action. Martin[19] added some technical improvements with the same idea of sphincter formation, the essential feature of which is that a direct ureteral implantation is made with the ureter running along an oblique muscular canal, perforating the bowel through a small opening in the mucosa.

The most valuable technical advances have come with the highly commendable work of R. C. Coffey, who places emphasis on the formation of a valve action as is normally present in the oblique passage of the ureter into the bladder, and who attempts to duplicate this valve of nature by having the ureteral end pass obliquely under the rectal mucous membrane for a few centimeters before opening into the intestinal lumen. This technical perfection satisfies the anatomic requirements fairly satisfactorily except that in those pathologic cases of large hydro-ureters it is much more difficult of execution, and in my experience it is questionable whether any true valve can be made to function in these cases in which the ureter is markedly dilated or as large as one's little finger. In the first hydro-ureter that I transplanted (case 1 above), either the attempt to follow Coffey's technic too literally or obstruction from edema led to an anuria necessitating reoperation on the third day, at which no effort of valve formation was made but the hydro-ureter was implanted directly and comfortably a little higher up and into the sigmoid just as one would do in ureterocystoneostomy. This particular technic was in this one case at least highly successful; the patient lived comfortably for six years, and at the necropsy a perfect result so far as the transplant is concerned was found. It was noted also that the ureter had shrunken practically none in this six year period (fig. 1).

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[12] Hinman, Frank; and Belt, A. E: An Experimental Study of Ureteroduodenostomy, J. A. M. A **79**: 1917-1923 (Dec. 2) 1922.

[13] Smith, P: An Account of an Unsuccessful Attempt to Treat Extroversion of the Bladder by a New Operation, St. Bartholomew's Hosp. Rep. **5**: 29 35, 1879.

[14] Trendelenburg: Zur Operation der Ectopia vesicae, Zentralbl. f. Chir., 1885, pp. 857-860; Ann. d. mal. d. org. gen -urin., 1903, p. 782.

[15] Tuffier, quoted by Gayet and Cavaillon: Etude expérimentale et clinique de l'exclusion rénale, Ann d. mal. d. org gén -urin. **22**: 679, 1904.

[16] Maydl, K: Ueber die Radikaltherapie der Ectopia vesicae urinariae, Wien. med. Wchnschr. **44**: 1112-1115, 1169-1172, 1209-1210, 1256-1258, 1297-1301, 1894; Neue Beobachtungen von Ureterenimplantation in die Flexura romana bei Ectopia vesicae, ibid. **46**: 1241-1247, 1333-1336, 1373-1378, 1896; Weitere Erfahrungen uber Implantation der Ureteren in die Flexur bei Ectopia vesicae, ibid. **49**: 249-255, 304-310, 360-367, 1899.

[17] Frank, J.: A New Contrivance for Intestinal End-to-End Anastomosis, M Rec. **50**: 469-473, 1896

[18] Boari, A: Manière facile et rapide d'aboucher les uretères sur l'intestin sans sutures, à l'étude d'un bouton spécial: recherches expérimentales, Ann. d. mal. d. org. gèn.-urin. **14**: 1-25, 1896.

[19] Martin, F. H.: Implantation of Ureters in Rectum: A Method having for Its Object the Making of Subsequent Infection of the Ureters and Kidneys Impossible, J. A. M. A. **32**: 159-161 (Jan. 28), 709-710 (April 1) 1899.

Coffey also has recently perfected a means of preventing local spread of infection which renders the implantation much safer than heretofore. The means is quite simple; after the rectum has been freed it is clamped as high as conveniently can be, and through a rectal speculum previously placed through the anus the lower bowel is flushed clean by means of a trocar inserted under surgical asepsis by the operator into the bowel just below the clamp. In this way all the contents of the rectum can be flushed out and the cleansed rectum can then be packed with sterile gauze, so that there is no possibility of a gush of fecal material into the operative field at the time the rectal mucosa is opened for ureteral implantation. This is what occurred in a minor degree in one of the cases mentioned above in which the patient died of bronchopneumonia and showed at necropsy a localized peritonitis. Coffey has also suggested, and the method has been used successfully by himself and other operators, the use of tubes that are placed in the open ureteral end and then passed down *through the rectal speculum* to the outside so as to drain the transplanted ureter for the first few days after operation, thus removing the danger of the early obstruction from edema during the time of healing. This method was primarily proposed in order to enable double transplantation at the one operation. Tubes leading directly through the infected rectum, theoretically, at least, promote reflux around them of rectal contents to the renal pelvis. In pathologic kidneys with hydroureters, particularly if only one kidney is present, even these improvements fail to give complete protection against ascending infection. On removal of the tubes, one's bridges, as it were, are burned behind him. No treatment of the isolated kidney is now possible.

In those desperate cases in which one reasons that the patient may die after ureteral transplantation but he most certainly will die if the ureter is not transplanted, it would seem more logical from a surgical standpoint to perform nephrostomy as a preparatory measure to subsequent ureteral transplantation, should conditions then justify it. The lumbar drainage leaves an avenue of direct treatment and free outlet for the urine from the kidney. As a matter of fact, one could now do as he wished with the lower end of the ureter. Such nephrostomy drainage would do away with the danger of early ascending infection and of obstruction from the early edema during the time of healing, thus obviating the need of tubes and their dangers.

Through such a nephrostomy opening after ureteral transplantation the lower ureter can be flushed from above in the natural direction and, if necessary, its lower end gradually dilated by passage of catheters through the nephrostomy opening. In this treatment, of course, catheters should be drawn on through the rectum, and not back by way of the nephrostomy opening.

I have used preliminary nephrostomy in two cases of advanced tuberculosis of the bladder, one already mentioned, in which renal function had dropped but in which we were unable to demonstrate tuberculosis of the remaining but progressively atrophying kidney. Although the patient was in a very weakened condition and transfusion had to be done before nephrostomy, the intestinal transplantation two weeks later occasioned no reaction, and convalescence has been uneventful. In the other case the kidney was drained for almost three months through the nephrostomy tube in order by putting the bladder at rest to promote healing But, there being no improvement, the ureter was finally and successfully implanted into the rectum.

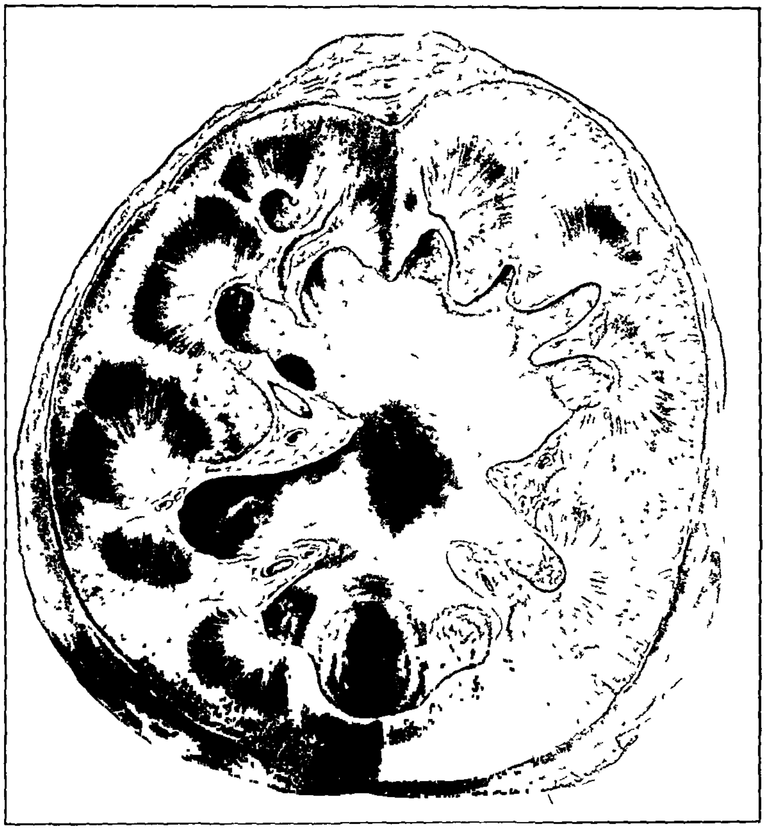

Fig 2 —Appearance of kidney removed at necropsy in case 1 There was no evidence of tuberculosis, and subsequent careful microscopic search failed to find any The renal parenchyma was in unusually good condition in view of the period of anuria and the irritation incident to the stone obstruction The hydronephrosis is partly the result of the original obstruction at the ureterovesical end before implantation of the ureter into the intestine but mostly from the more recent stone obstruction

INDICATIONS

It would hardly be indicated to perform nephrostomy in all cases in which ureteral transplantation seems indicated. In exstrophy when the ureters are usually of normal size and function, intestinal transplantation by the perfected method of Coffey is simple and usually quite satisfactory so far as immediate results are concerned. I have several patients now alive for many years in perfect health and comfort, the longest one eight years, the last examination of whom showed fairly normal function by rectum. Another patient who had both ureters transplanted two years ago has just had the bladder resected and a plastic operation done at the vulva. She has been in school and in apparently perfect health. A large series of successful cases are reported from the Mayo Clinic and by Lower and others.[20] However, ureterorectoneostomy is not the final surgical word in exstrophy. But in the acquired conditions in which ureteral transplantation is indicated, particularly if only one kidney remains and its ureter is hypertrophied and dilated, preliminary nephrostomy is a safeguard that will materially lower the immediate mortality of the procedure and greatly promote its ultimate success.

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SUBCAPITAL FRACTURE OF THE NECK OF THE FEMUR[*]

ARMITAGE WHITMAN, M D.
NEW YORK

The question of the proper treatment for all varieties of fracture of the neck of the femur seems at last to have been settled. In other words, the abduction treatment—the Whitman method—has been accepted by surgeons acquainted with the treatment of fractures.

The subject of fracture of the neck of the femur in general, however, is still open to discussion. To make the subject as clear as possible, I think it advisable to adopt, instead of the time-worn and somewhat vague intracapsular and extracapsular fracture, the more definite French terminology. Fractures of the neck of the femur are classified by Delbet as (1) subcapital, (2) transcervical, (3) cervicotrochanteric and (4) pertrochanteric, as illustrated by figure 1.

This classification is important because opinion seems to be unanimous that the last two forms of the fracture will unite under any form of treatment. The application of the abduction method to them, therefore, is of importance merely in regard to the prevention of the usual deformity, the coxa vara that insures the patient, in spite of the healing of the fracture, more or less total disability from pain and limp.

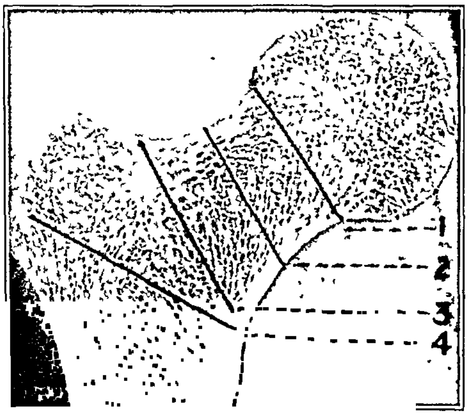

Fig 1.—Fractures of neck of femur: 1, subcapital; 2, transcervical; 3, cervicotrochanteric, 4, pertrochanteric.

The question of the repair of subcapital and transcervical fractures is still unsettled, and opinions vary from that of Delbet, who states that such fractures never unite under any form of treatment, to the statistics of Campbell, who cites 85 per cent of favorable results. But for its extreme importance to the patient this might seem simply a rather exaggerated instance of the usual differences of medical and surgical opinion, and be allowed to pass as such.

I myself should not have believed that such a sharp division of opinion existed in practice as well as in theory had I not recently heard a surgeon of rather extraordinary capability say that he had never seen a case of true subcapital fracture that united by bone Dr. Campbell's statistics, as well as those of Scandinavian, German and French authors, are at his disposal. I assume, therefore, that the evidence that he and others like him crave is cases and not statistics, and I therefore report two cases in my own practice in support of the thesis that subcapital fracture of the neck of the femur may unite under one form of treatment.

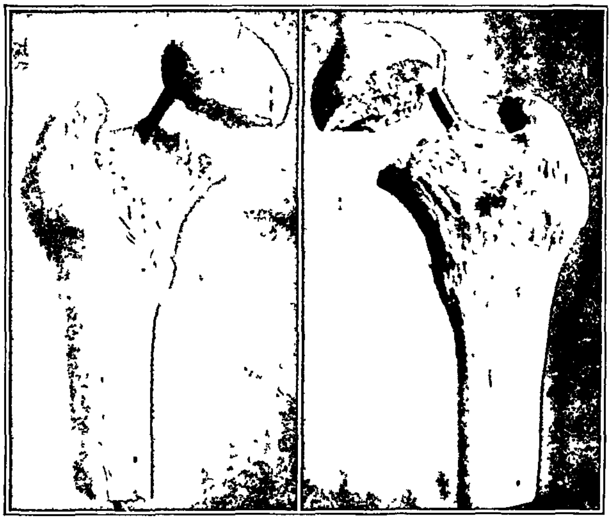

Fig 2 —Absorption of neck following a subcapital fracture. (Specimen 168 from the Musee Dupuytren)

The patient is concerned because, if it be true that such fractures never unite under any form of treatment, the logical course is immediate operation.

In examining the roentgenograms of both these cases, it will be noted that during the course of the immobilization in plaster there has been very considerable absorption of the neck, as illustrated in figure 2, a specimen from the Musée Dupuytren, in spite of which and during and after which, firm, bony union has resulted. This point is of the greatest importance, for two reasons.

The first is that bone grafting operations, nailing or pegging are often advocated for this type of fracture. It will be evident that had a bone graft been inserted in either of these cases its mechanical function could only have been to hold the fragments apart during the process of absorption of the neck exactly in the manner in which the fragments of the specimen in figure 2 are held apart by the metal band, whereas in the abduction method their tendency is to fall ever closer together If union occurs in such a case when a grafting operation has been done, it must be due to the osteogenic power of the graft and to the gradual replacement of the graft by new bone.

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[20] Mayo, C H Exstrophy of the Bladder and Its Treatment, J A M A **69:** *2079-2081 (Dec 22) 1917. Mayo, C H · Exstrophy* of the Bladder Contributions to Medical and Biological Research, Dedicated to Sir William Osler **2:** 1095-1110, 1919 Lower, W E · Disposition of Ureters in Certain Abnormal Conditions of the Urinary Bladder, J A M A **80:** 1200-1204 (April 28) 1923 Mayo, C H, and Walters, Waltman · Transplantation of Ureters into Rectum End Results in Thirty Five Cases of Exstrophy of the Bladder, J A M A **82:** 624-626 (Feb 23) 1924

[*] From the Hospital for Ruptured and Crippled, First Division

It is conceded that in this type of fracture there is always the possibility of nonunion. Opinions as to percentages of nonunion will probably continue to vary, and most patients will probably continue to prefer the risk of nonunion to the risk of operation.

I take this opportunity to point out that if open operation is ever to be recommended as an immediate remedy for such fractures, bone grafting operations are no more free from the element of risk than the abduction treatment itself. I shall always remember a case in which such an operation was performed by an eminent exponent of the method. At the end of three months the patient was urged to walk, whereupon either the union gave way or the graft broke. The patient shortly after died—some said of disappointment. The only operation free from such an element of risk is the reconstruction operation, which does not depend for its success on the reparative powers of the patient.

REPORT OF CASES

CASE 1.—Mrs. S. S., aged 69, seen, July 30, 1921, slipped and fell, two weeks before, injuring the right hip. She was carried home, put to bed, and had no treatment except advice of her physician to get up and walk and move the limb as much as possible. The patient was in good condition. She was rather obese, lay in bed with the right limb rotated outward, slightly abducted, and was unable to move it voluntarily. Measurements from the anterior superior iliac spine to the internal malleolus were: right, 29½ inches; left, 30 inches. Movements of the limb were not tested because the roentgen-ray examination showed a subcapital fracture of the neck of the femur with very slight displacement.

August 1, under gas and oxygen, the shortening was reduced and the limb abducted to its normal limit, placed in hyperextension and slight inward rotation. A long plaster-of-paris spica holding the limb in this position and the knee in slight flexion was applied.

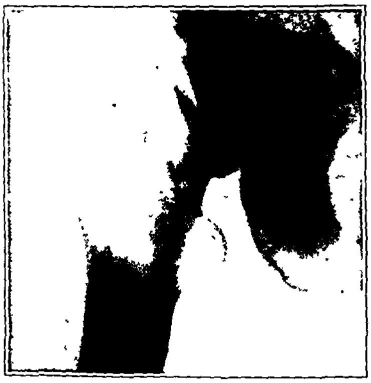

Fig. 3 (Case 1).—Subcapital fracture.

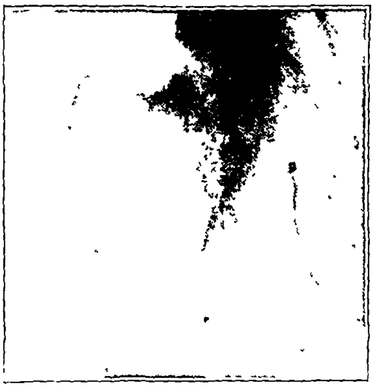

Fig. 4 (Case 1).—Bony union following absorption of half of the neck.

October 15, the plaster was cut away from the posterior aspect of the leg, permitting motion at the knee, which was somewhat limited and painful.

November 1, the plaster was removed entirely. The patient lay in bed. The leg was daily drawn out into full abduction and the patient encouraged to move it. Roentgen-ray examination showed considerable absorption of the neck but apparently firm union.

Jan. 7, 1922, the patient left the hospital, walking with crutches and bearing increasing amounts of weight on the limb.

When last seen at a clinic at the Hospital for Ruptured and Crippled held in November, 1925, the patient walked without a limp. The motions of the hip in all directions were free and painless.

This patient has been shown before the New York Surgical Society as illustrating perfect anatomic and functional recovery following this type of fracture.

CASE 2.—Miss L. G., aged between 50 and 60, at 5 o'clock, Jan. 22, 1925, fell while getting off a Lexington Avenue car. She was unable to rise because of pain and she was brought on a sled half a block and assisted into the house with great difficulty. She was in fair condition. She was rather pale and had an anxious expression. No detailed examination was made because of pain occurring on movement. The right limb was rotated outward at 45 degrees; the knee was slightly flexed; there was apparent very slight shortening. On gentle manipulation, no crepitus was elicited. It was thought that the trochanter was somewhat higher than on the opposite side. Measurements from the anterior superior iliac spine to the internal malleolus were: right, 30 inches, left, 30¼ inches. Roentgen-ray examination showed a typical subcapital fracture of the neck of the femur, the neck displaced upward so that it was on a level with the upper border of the head.

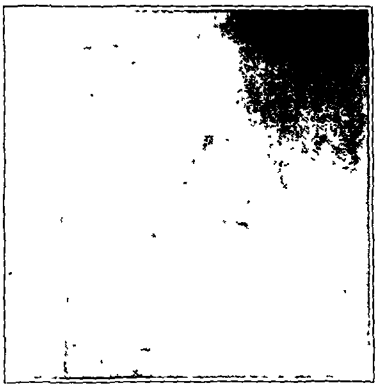

Fig. 5 (Case 2).—Subcapital fracture.

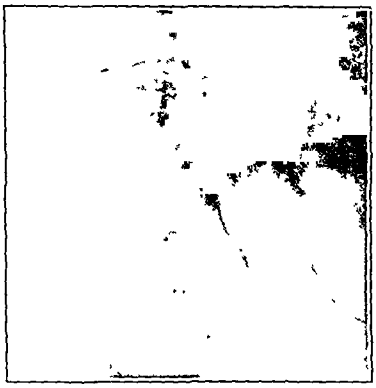

Fig. 6.—Bony union following absorption of the neck.

Under gas, the shortening was overcome and a long plaster-of-paris spica was applied, holding the limb in full abduction, internal rotation and slight hyperextension.

April 20, the plaster was removed. There were a few degrees of motion in all directions at the hip, and apparently firm union.

June 15, the patient left the hospital, walking with the aid of crutches, bearing increasing amounts of weight on the limb.

December 1, the patient was still using crutches on the street because of fear of falling. She was able to make her way about the house with very slight discomfort. She still walked with a slight limp. There was half an inch of shortening, and the extremes of motion at the hip in all directions were somewhat limited and painful. The roentgen ray showed apparently firm bony union.

71 Park Avenue.

Voltaire and Medical Jurisprudence.—There is much to be found in Voltaire's work that will appeal to the medical jurist who is interested in the history of his subject, especially if it be borne in mind that the reform of criminal legislation in France was due to Voltaire (Masmonteil). The trials of Calas, Sirven and Montbailli, the revision of which constitutes the crowning glory of Voltaire, are particularly worthy of study. In both the Calas and the Sirven case, the medical experts appear to have been grossly ignorant and incompetent. —Rolleston, J. D.: *Proc. Roy. Soc. Med.* **19**:89 (Feb.) 1926.

A MICROSCOPIC SLIDE PRECIPITATION TEST FOR SYPHILIS

PRELIMINARY REPORT *

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AND
A. M. YOUNG, A.B.
CLEVELAND

Our purpose in this report is to describe a microscopic slide precipitation test for syphilis with Kahn's antigen which is as sensitive as the routine three tube Kahn test with the following advantages over that method: 1. It is simpler. 2. It requires less apparatus and much less serum. 3. The results are easier to read.

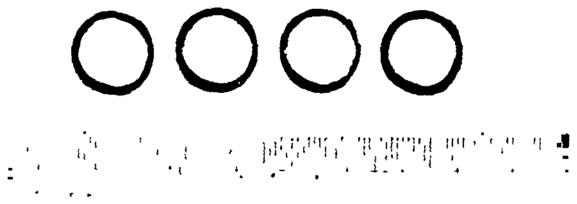

Fig. 1.—Microscopic slide with paraffin rings, slightly reduced.

Since the publication of the first precipitation test for syphilis by Michaelis,[1] in 1907, numerous modifications of antigen and technic have been suggested, especially by Porges and Meier,[2] Bruck and Hidaka,[3] Herman and Perutz,[4] Meinicke,[5] Sachs and Georgi,[6] Dreyer and Ward,[7] Vernes [8] and Kahn.[9] Of these, the Kahn test has apparently received the widest acceptance, giving results, in the hands of numerous workers, in close agreement with the Wassermann test and with the clinical findings.

In commencing work with the Kahn test in this laboratory, we were greatly assisted with the technic by Dr. Kahn, who not only supplied us with antigens and details concerning his method but also gave Miss A. B. Mill of our staff an opportunity of following the work in his own laboratory. In a subsequent communication with Miss Mill we hope to report a large number of parallel Kahn and Wassermann tests. The parallel Kahn and Wassermann tests thus far performed by her (table 4) agree closely.

The Kahn three tube precipitation test, although easy to perform, is somewhat difficult to read without considerable practice and requires 0.45 cc. of serum. Because of the fact that sufficient quantities of serum are not always obtainable or available, some attention has been given to the development of a precipitation test requiring comparatively small quantities of serum. In one of Kahn's publications,[10] there is a record of a micromethod tried by him "with the hope," he states, that it may prove helpful in those cases in which regular quantities of serum are not available. Hanging drop preparations were prepared with minute amounts of serum measured with a capillary pipet and approximately one sixth the amount of antigen measured with a pipet of similar size, employing the usual procedure. After given periods of incubation, the positive serums showed under the microscope clumps of minute globules, whereas in the case of negative serums the mixture appeared homogeneous.

It was observed, however, that this method gave considerably weaker results than the regular one, large numbers of weak serums giving no precipitation reactions with these microscopic quantities. This was found to be due, not to the relatively minute serum and antigen quantities, but to improper agitation of these two substances. For successful precipitation reactions, the serum and antigen must be thoroughly mixed. We have therefore found it more dependable to employ small agglutination tubes for this microprocedure and thus to enable proper mixing of the serum and antigen by shaking.

Another precipitation test (a modification of the Sachs and Georgi test) requiring small quantities of serum was reported by Priestley [11] in 1923. The following is an extract of his technic employing comparatively large plates:

> The slide is 29 by 5 cm., cut with a diamond into twenty compartments; this allows of four sera with their serum controls being tested in four dilutions at the same time. Those sera which were positive in these dilutions were then put up in higher dilutions to extinction of precipitation. For the volumes of serum dilutions and antigen, pipets of no. 52 Starrett wire gage were used, one being kept for the serum dilutions and one for the antigen dilution. The sera were put up in dilutions of 1 in 2½, 1 in 5, 1 in 10, 1 in 20, etc., and one drop of antigen dilution added to each except the serum control, which consisted of one drop of neat serum and one drop of saline. Rotation of the slide, either by hand or by means of a clockwork device similar to Garrow's over an angle of 45 degrees on either side of the horizontal, was carried on for five minutes, when the results were read by a watchmaker's lens, and expressed as one, two or three plus according to the size of the flocculi. The antigen used has been a mixture of alcoholic human heart extract and 1 per cent alcoholic cholesterol in the proportion of 3 to 2 parts. The same antigen has been used throughout the Wassermann reaction tests, but in a different dilution. Bordet's antigen plus cholesterol was tried, but appeared to give no better results than the crude heart extract. A dilution of 1 in 5 appeared to give the best results, the antigen being measured into a dry tube and the salt solution slowly dropped into it from a height of 12 inches. Of 500 parallel tests a superficial examination shows agreement in 395 (79 per cent) and disagreement in 105 (21 per cent); and of the latter the Wassermann reaction yields stronger results than the slide

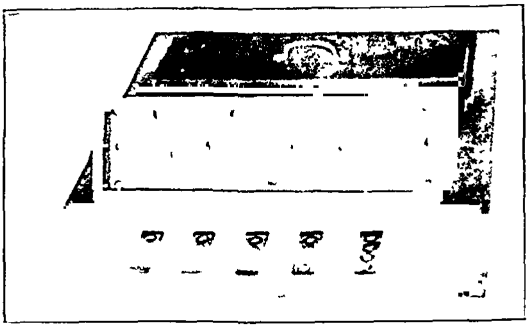

Fig. 2.—Humidor cover for incubating slides (two views), greatly reduced.

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* From the Laboratory Service, Mount Sinai Hospital.

[1] Michaelis, L.: Berl. klin. Wchnschr. **44:** 1477, 1907.

[2] Porges, O., and Meier, G.: Berl. klin. Wchnschr. **45:** 731, 1908.

[3] Bruck, C., and Hidaka, S.: Ztschr. f. Immunitatsforsch., Orig. **8:** 476, 1911.

[4] Herman, O., and Perutz, A.: Med. Klin. **7:** 60, 1911.

[5] Meinicke, E.: Berl. klin. Wchnschr. **54:** 613, 1917.

[6] Sachs, H., and Georgi, W.: Med. Klin. **14:** 805, 1918.

[7] Dreyer, G., and Ward, H. K.: Lancet **1:** 956 (May 7) 1921.

[8] Vernes, A.: Presse méd. **25:** 704, 1917.

[9] Kahn, R. L.: A Simple Quantitative Precipitation Reaction for Syphilis, Arch. Dermat. & Syph. **5:** 570 (May) 1922.

[10] Kahn, R. L.: A Simple Quantitative Precipitation Reaction for Syphilis, Arch. Dermat. & Syph. **6:** 332 (Sept.) 1922.

[11] Priestley, A. H.: Slide Precipitation Test for Syphilis, Lancet **1:** 1260 (June 23) 1923.

Sachs-Georgi in sixty-one (12.2 per cent), and the Sachs and Georgi than the Wassermann reaction in forty-four (8.8 per cent).

Although the open microscopic slide method of agglutination has been widely adopted for blood typings and bacterial agglutinations since the publication of Vincent's article,[12] we have found no reference in the literature to the use of microscopic slides in precipitation tests for syphilis.

After we had done the Kahn three tube test a few times, it was decided to run as a simple control a microscopic slide test with a technic employed in this laboratory for blood typings and bacterial agglutinations. In spite of various dilutions, the microscopic slide method has agreed closely with routine Kahn and Wassermann tests (tables 1, 2 and 3). In addition to the parallel tests recorded in the tables, many more microscopic slide tests were performed with the purpose of establishing a satisfactory routine procedure. As a result of various modifications tried in 527 tests, the following technic, because of its simple requirements, ease of performance and apparent specificity, is recommended for trial.

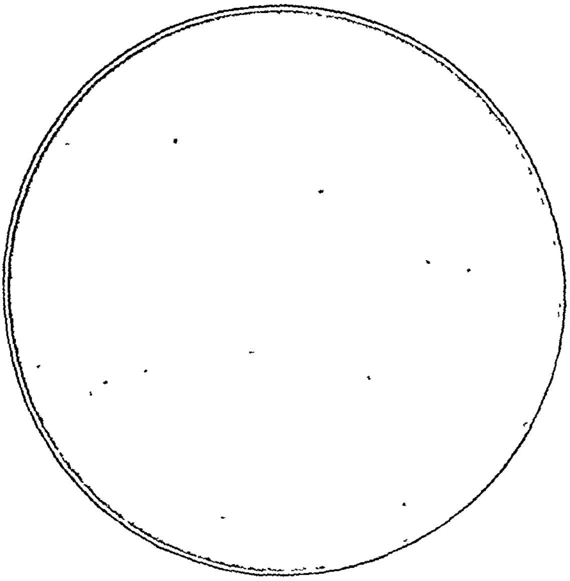

Fig. 3.—Negative slide test (through 16 mm. objective, 12.5 eyepiece).

MICROSCOPIC SLIDE PRECIPITATION TEST

Glassware and Apparatus.—Ordinary microscopic slides are washed in soap and water, rinsed thoroughly in water, allowed to remain in 95 per cent alcohol for a short time, dried and then flamed. After this, four paraffin rings (each with an inside diameter of 11 to 12 mm.) are made on one surface according to the method of Green[13] by transferring a small amount of hot paraffin on a stiff wire (gage 19) wound with thread (or hat wire) bent to the form of a circle (fig. 1).

The pipets needed for delivering the serums are the ordinary 1 cc. pipets graduated in 0.01 cc. The pipets for the antigen are the same as those for the serums with the ends drawn out so that each drop of antigen dilution equals 0.015 cc. The diameter of the tip over all is about 1.25 mm.

Vials for preparing the antigen dilution are similar to those used and recommended by Kahn.

A humidor cover is necessary for the test. The one employed in this laboratory consists of a wooden lid, 16½ by 4 by 1½ inches inside diameter, with a moistened blotter fastened in place with thumb tacks, as shown in figure 2.

Antigen.—The antigen and antigen dilution are prepared as for the Kahn test. The antigen titration likewise is done as for the Kahn test. The antigen dilution should be made up just before pipetting the serums. Some antigen dilutions have been found to work only within fifteen minutes of their preparation. An average antigen dilution may still be used forty-five minutes after its preparation.

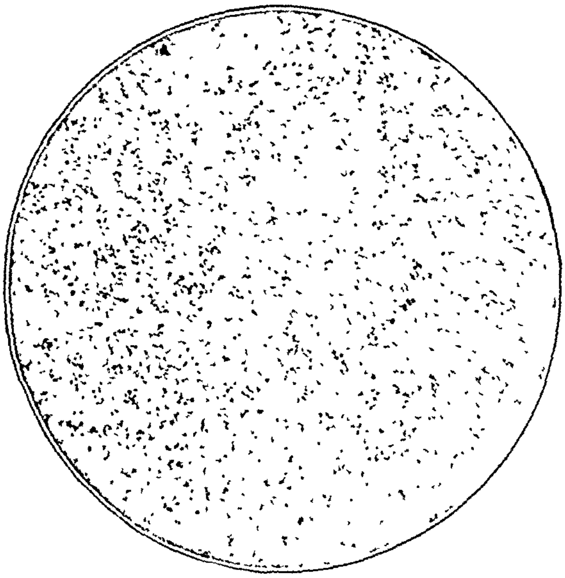

Fig. 4.—Slide test + (through 16 mm. objective, 12.5 eyepiece).

The action of the antigen dilution has been found unsatisfactory when the room temperature and that of the microscopic slides is low; again, false clumping occurs in serum antigen dilution mixtures allowed to dry. Accordingly, it is important to do the test in a warm, humid room (about 80 F. with visible moisture on the windows), which is readily prepared by heating a pan of water after closing the windows and doors. The table top on which the tests are performed should be kept warm. A piece of harness felt three-fourths inch thick is satisfactory for this purpose.

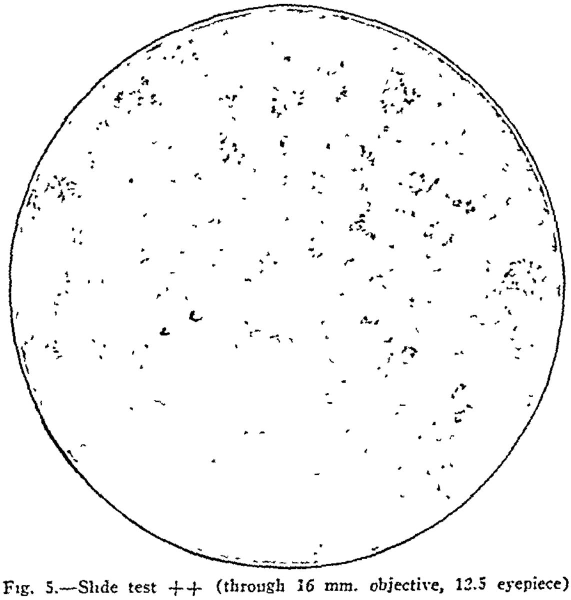

Fig. 5.—Slide test ++ (through 16 mm. objective, 12.5 eyepiece).

Serums.—These are obtained as for the Wassermann test, care being exercised that they contain no red blood cells or foreign material. Before use, they are heated to 56 C. for one-half hour.

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[12] Vincent, Beth: A Rapid Macroscopic Agglutination Test for Blood Groups, and Its Value in Testing Donors for Transfusion, J. A. M. A. **70**: 1219 (April 27) 1918.

[13] Green, G.: Am. J. Pub. Health **15**: 651, 1925.

The Test.—Into each ring, 0.06 cc. of the undiluted serum to be tested is delivered from a pipet. It is advisable to work with not more than twelve serums (three slides) at a time. After all the serums are pipetted, 1 drop of Kahn's antigen dilution (0.015 cc.) is allowed to fall into the serum in each ring. After all the antigen is pipetted, the small amount in each ring is evenly distributed by rapidly stirring the mixture with a tooth pick (a new tooth pick with flat end a few millimeters in width is used for each test). After the mixtures are complete, the slides, without further agitation, are placed below the humidor cover and allowed to remain at room temperature for ten minutes. At the expiration of this time, the first slide is removed, rocked and rotated by hand for about sixty seconds (about sixty times) and read immediately. The readings are made through the microscope (16 mm. objective, 10 or 12.5 eyepiece) with the light cut down as in studying urinary sediments and recorded in terms of pluses according to the size of the clumps, as shown in figures 3 to 7. Because of the importance of the test, it is strongly recommended that it be done in duplicate, different antigens being used.

In performing the tests, capillary pipets (drawn from glass tubing) with bulbs holding about 10 drops of fluid may be used instead of those described.

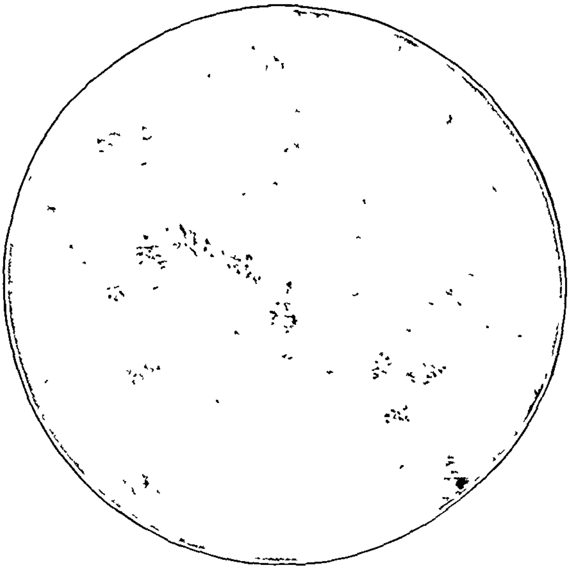

Fig 6.—Slide test + + + (through 16 mm objective, 12.5 eyepiece).

COMMENT

The test as described is recommended as the one yielding the best results of the numerous procedures employed in 527 tests, included among which were tests with varying quantities of serum (from 0.01 to 0.06 cc.), antigen dilution (from 0.0075 to 0.03 cc.) rings of various sizes (from 8 to 13 mm.) and incubation periods of various lengths (from five to forty-five minutes) in the open air and in the humidor. The antigens used have been Kahn's standard and special antigens kindly furnished by Dr. Kahn, and also similar antigens prepared according to his formulas.

It should be remarked at this point that the open slide method described above is ideal for the mixture of serum and antigen, contrasting with the hanging drop method tried by Kahn. At the same time, however, the larger surface offers greater opportunity for rapid drying, and, unless this is prevented, false clumping may occur. This danger is completely obviated by incubating the test below the humidor cover.

In the performance of the test by the method recommended, it has been observed that the strongly positive serums require no agitation beyond the initial stirring with a tooth pick, the clumping being almost immediate. The rocking and rotation, however, accentuate the

Table 1.—*Two Hundred and Sixty-Eight Comparative Microscopic Slide Tests (Kahn Antigen, Various Quantities Antigen Dilution and Serum) and Kahn Tests*

	Tests	Per Cent
Agreement	226	84.3
Relative agreement	36	13.4
	262	97.7
Disagreement	6	2.3
Total	268	

Positive reaction = ++++, +++ and ++.
Doubtful reaction = + and ±.
Agreement = positive or negative by both methods.
Relative agreement = positive or negative by one method and doubtful with the other.

Table 2.—*Three Hundred and Fifty-Seven Microscopic Slide Tests (Kahn Antigen, Various Quantities Antigen Dilution and Serum) and Wassermann Tests (Ecker Antigen, Overnight Icebox Incubation)*

	Tests	Per Cent
Agreement	268	78.1
Relative agreement	51	14.9
	319	93.0
Disagreement	24	7.0
Total	343	

Wassermann anticomplementary, slide test variable, 14 tests = 4 per cent.

Table 3.—*Two Hundred and Thirty-Two Comparative Slide Tests and Wassermann Tests (Kahn Antigen Cholesterolized and Noncholesterolized, Overnight Icebox Incubation)*

	Tests	Per Cent
Agreement	177	80.5
Relative agreement	26	11.8
	203	92.3
Disagreement	17	7.7
Total	220	

Wassermann anticomplementary, slide test variable, 12 tests = 5.2 per cent.

Table 4.—*Two Hundred and Eighty-Nine Comparative Kahn Tests and Wassermann Tests (Ecker Antigen, Overnight Icebox Incubation)*

	Tests	Per Cent
Agreement	232	82.3
Relative agreement	35	12.4
	267	94.7
Disagreement	15	5.3
Total	282	

Wassermann anticomplementary, Kahn variable, 7 tests = 2.4 per cent.

Table 5.—*One Hundred and Ninety-Two Comparative Kahn Tests and Wassermann Tests (Kahn Antigen Cholesterolized and Noncholesterolized, Overnight Icebox Incubation)*

	Tests	Per Cent
Agreement	165	88.2
Relative agreement	12	6.4
	177	94.6
Disagreement	10	5.4
Total	187	

Wassermann anticomplementary, Kahn test variable, 5 tests = 2.6 per cent.

clumping not only in the weakly positive but also in the strongly positive serums.

It has been found that a considerable range in the quantities of serum and antigen can be employed with success. The quantities recommended, however, have been found the most satisfactory.

When compared with the routine Kahn test, the microscope slide test will be found much simpler, requiring less apparatus and for a single test but one-seventh the amount of serum. Perhaps the greatest advantage is the greater ease of reading the results. The completed test is easily viewed through the microscope, and the results, appearing as in the accompanying illustrations, are much more striking than those of the Kahn test.

The test should be of particular value when only small quantities of serum are obtainable and when, as in emergency blood transfusions, prompt knowledge of the presence or absence of syphilis in the donor is desirable.

Comparative results of microscopic slide precipitation tests as described, Kahn tests, and Wassermann tests are given in the tables.

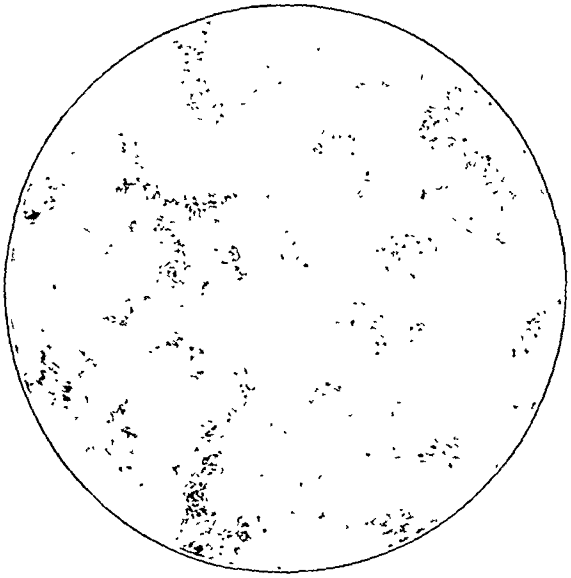

Fig. 7.—Slide test ++++ (through 16 mm. objective, 12.5 eyepiece).

As will be seen from the tables, there is a close agreement between the microscopic slide precipitation test, the Kahn test and the Wassermann test.

CONCLUSION

The microscopic slide precipitation test for syphilis with Kahn's antigen described in this report is as sensitive as the routine three tube Kahn test and has the following advantages over that method: 1. It is simpler. 2. It requires less apparatus and much less serum. 3. The results are easier to read.

Insomnia a Bad Habit.—Insomnia or sleeplessness is, in most instances, a bad health habit that can be cured without an undue expenditure of effort, if the will is present to conquer it. There is no great danger in staying awake at night if the wakefulness is not caused by actual pain, disease, infection, or a necessity which permits of no relaxation for long hours.—Wood, T. D., and Dansdill, T.: By-Ways to Health, 1925, p. 88.

MASSIVE INTRAPERITONEAL HEMORRHAGE

FROM A RUPTURED PAPILLARY ADENOCYSTOMA OF THE OVARY

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BOSTON

In 1924, I[1] had the opportunity of looking up the subject of intraperitoneal hemorrhage of ovarian origin. In reviewing the literature from 1900 to 1924, I found no mention of the rupture of a papillary adenocystoma of the ovary as the specific cause of a massive hemorrhage. These growths are usually multilocular, and are commonly associated with free fluid in the abdominal cavity and with secondary peritoneal involvement, although ascites may be absent as long as the papillary masses remain within the cyst cavity. On perforation of the cyst, the papillary growths spread over the surface of the neoplasm, and invade the uterine and pelvic peritoneum, and finally the parietal peritoneum and that covering the abdominal organs. Extensive involvement of the peritoneal cavity is looked on as a malignant condition, although this is not always so, since the secondary peritoneal masses have been known to disappear following the removal of the original cyst.

A case of life-endangering bleeding from such a cyst came to my attention in May, 1924, and forms the basis of this report.

REPORT OF CASE

History.—Mrs. S. L., aged 66, was seen in consultation at her home, May 10, 1925, and was admitted to the Carney Hospital gynecologic service on the same date. Her complaints were pain in the abdomen, abdominal distention, and constipation of two days' duration. Her father had died of an accident; her mother, of cancer of the stomach, at the age of 79; one brother, of pneumonia, at 54 years of age (ten years previously); one sister, of cerebral hemorrhage, at 57 years of age (nine years previously). Two sisters and one brother were living and well; there were no chronic diseases in the family. The patient had influenza and bronchopneumonia in 1918, and she had a trachelorrhaphy performed eighteen years previously. Menstruation was established when she was 15; the periods were regular, of the twenty-eight day type, and lasted from four to five days, without pain. She had reached the menopause fourteen years before admission, and had had no vaginal bleeding since. The patient had been married forty-one years; her husband was living and well, and she had five living children, the oldest being 38 and the youngest 27. She lost one child at the age of 6 months, the cause of death being given as convulsions. Her first three deliveries were instrumental; the others were normal. The puerperia were normal. Three months before I saw her, the patient felt a mass in the abdomen, which she described as floating, especially when she changed her position. There was no distinct pain or discomfort until the day before admission, when she began to complain of gas pains, accompanied by progressively increasing distention. At this time she began to have a bloody vaginal discharge. She was given an enema at home, but this was not effectual and did not relieve the distention or the pain, which seemed to be general in the abdomen. The history was otherwise negative.

Examination.—The patient was emaciated, in a state of shock, had an anxious expression, and was apparently suffering a great deal of pain; the respirations and pulse rate were increased, and she was anemic in appearance. The head, lungs and heart were normal.

The abdominal examination showed marked distention and extreme rigidity; the abdomen was tympanitic in the center, but dull in the flanks. The distention was symmetrical, and palpation suggested a mass which was probably connected with the uterus. There was so much pain on palpation that this was not satisfactory. There was marked spasm of both rectus muscles.

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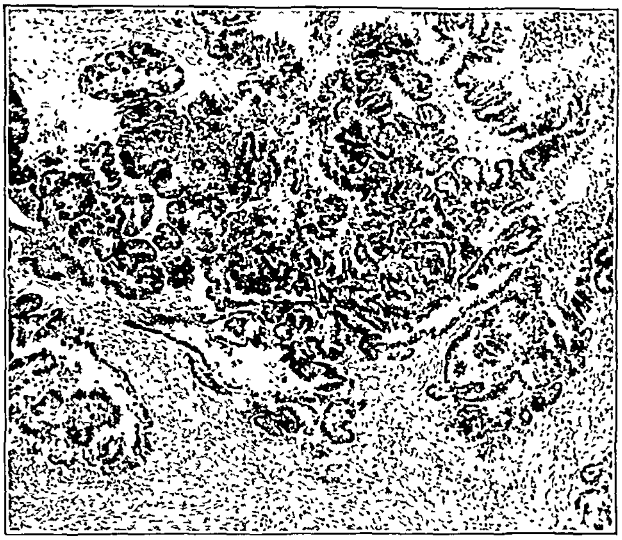
[1] Phaneuf, L. E.: Intraperitoneal Hemorrhage from Ruptured Ovarian Cyst, J. A. M. A. 83: 658-662 (Aug. 30) 1924.

The vaginal examination revealed a large mass filling the pelvis, and probably having its origin on the right side of the uterus. The culdesac of Douglas was bulging, and probably contained fluid. There was a bloody vaginal discharge. The pelvic examination was unsatisfactory, because of the pain elicited in the attempt to differentiate the pelvic organs.

Operation.—May 10, under ether anesthesia, a median abdominal incision was made from the symphysis to the umbilicus. When the abdomen was opened there was a gush of fresh blood. The abdomen contained about 2 liters of fluid and clotted blood. The pelvic peritoneum and the small and large intestines were markedly distended, and were covered with numerous white tubercles suggesting malignant disease. On the right of the pelvis, a large ovarian cyst covered with papillary projections was found; this had ruptured and blood clot filled the rent. The pedicle was clamped and tied, the cyst was removed, and the blood was evacuated. The uterus, the left adnexa and the right tube were also covered with papillary masses. The abdomen was quickly closed in layers, and the patient left the operating room in fairly good condition.



Papillary adenocystoma of ovary; × 100.

Convalescence.—The patient made a good ether recovery; she had some nausea and vomiting, and complained of pain in the region of the incision. The pulse was of fairly good quality. The distention had decreased the day after operation; the pain was much less; the temperature was 100.4, and the pulse 100. The patient was given physostigmin sulphate, $\frac{1}{50}$ grain (1.3 mg.) hypodermically every four hours for four doses, and was given glucose solution, 250 c.c., every four hours by rectum. May 16, she felt weak; the distention was under control; the temperature was 101.8; the pulse was 120; there was no pain or vomiting, and the patient was thirsty and was taking fluids by mouth freely. The skin was cold at times. May 19, the sutures were removed; the incision had healed by first intention; there was no induration or tenderness of the incision. May 23, the patient felt well; the pulse, temperature and respirations were normal. May 28, the seventeenth postoperative day, the patient was allowed out of bed, and she was discharged on June 1, at which time the incision was dry and well healed; there was no induration or tenderness, and the temperature and pulse were normal. The vaginal examination showed a small uterus in second degree retroversion; the lateral vaults were clear, and there was no pelvic tenderness.

Pathologic Report.—Examination of the specimen was made by Dr. F. B. Mallory. It consisted of a collapsed cystic tumor mass which measured about 20 by 10 by 5 cm., with many cysts filled with fluid and papillary outgrowths from the walls. In places it showed extensive necrosis. Microscopically, the tumor consisted of papillary branching stalks of vascular connective tissue covered with a layer of cylindric cells, as shown in the accompanying illustration. The diagnosis was typical papillary adenocystoma of the ovary.

Subsequent Notes.—June 20, the patient, who had gone to Brooklyn, reported that she was convalescing satisfactorily, was free from pain, and was out every day. July 7, her husband stated that she was comfortable in every way except for a certain amount of gaseous eructations after meals, but he asserted that she had been subject to those for a number of years. August 1, the patient reported that she continued to improve, went out shopping alone daily, had gained 1 pound (0.5 kg.) in the previous three weeks, was eating and sleeping well, and was generally doing well.

COMMENT

When this patient was first seen, the clinical picture was that of an ovarian tumor, ascites, and intestinal obstruction. A severe hemorrhage was not suspected. The state of shock was ascribed to the obstruction, while the anemic condition of the patient was thought to be due to malignancy and cachexia. She made a surprisingly good recovery, and her constant improvement since operation gives the hope that she may be classed in the group of cases in which the secondary peritoneal involvement disappears after the removal of the primary tumor.

395 Commonwealth Avenue.

MEASLES TOXIN

ITS PREPARATION AND APPLICATION AS A SKIN TEST, AS AN IMMUNIZING AGENT, AND FOR THE PRODUCTION OF AN ANTITOXIN *

N. S. FERRY, M.D.
AND
L. W. FISHER, B.S.
DETROIT

This is a preliminary report of the preparation of measles toxin from a micro-organism isolated by us in pure culture from the blood of patients in the early stages of the disease.

The micro-organism is characterized as a small, gram-positive, aerobic, green producing streptococcus, appearing both in pairs and in chains, which produces an extracellular or soluble toxin specific to measles.

In obtaining this organism, about 10 cc. of blood, drawn directly from the median cephalic vein, was planted in 0.25 liter flasks of Hibler medium, incubated twenty-four hours and plated directly on sheep blood agar. The plates were incubated aerobically twenty-four hours and planted from that to blood agar slants or into 0.2 per cent glucose broth.

The organism we have isolated differs from that described by Tunnicliff, in that it is an aerobe growing luxuriantly in the presence of oxygen and that it produces a soluble toxin specific to measles.

In order to distinguish the streptococcus isolated by us from any organism previously described, as so many have been found in the blood of measles patients, we have called it *Streptococcus morbilli.*

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* From the Medical Research Laboratories, Parke, Davis & Co.

* This work was made possible through the courtesy of Dr. Henry F. Vaughan, commissioner of health, the officers of Herman Kiefer Hospital, and especially through the assistance of Dr. B. B. Bernbaum and Dr. E. Martmer of Herman Kiefer Hospital and Dr. R. W. Pryer, director of the board of health laboratories, Detroit.

In the preparation of measles toxin, the streptococcus in question was planted in 1 liter flasks of 0.2 per cent glucose broth and incubated six days, the flasks being agitated every twenty-four hours. A luxuriant growth resulted which, on passing through a Berkefeld W candle, gave a toxin of the strength of 5,000 skin test doses per cubic centimeter. To the toxin, 0.5 per cent phenol (carbolic acid) was added as a preservative.

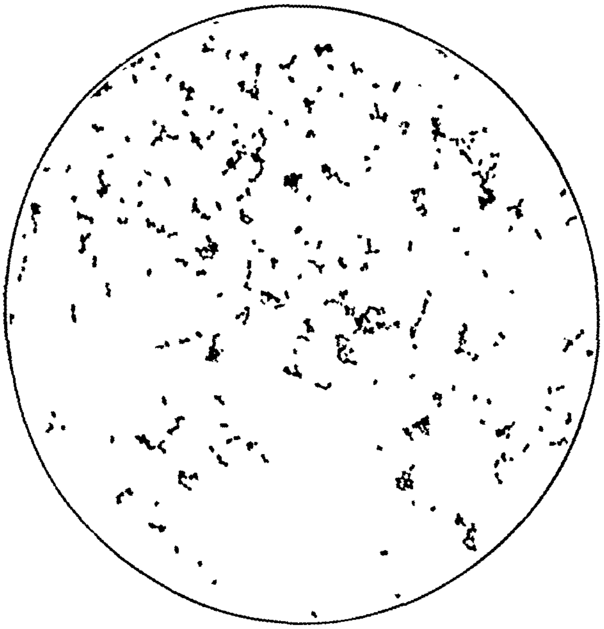

Fig. 1.—Appearance of organism as grown on solid medium.

Proof of the presence of toxin in broth filtrates of our organism, evidence of the specific relationship of this toxin to the disease, and proof of the etiologic relationship to measles of the organism from which it was obtained are shown in the experiments reported here. These experiments were carried out on persons susceptible and those immune to measles, as well as on persons suffering with the disease; also on rabbits and other animals.

1. Persons with no histories of measles gave positive skin reactions, on intracutaneous injections of 0.1 cc. of a 1 : 500 dilution of the toxin, showing that they were sensitive to the toxin. Out of thirty-five tests on persons giving negative histories, fourteen gave positive skin reactions to intracutaneous injections of the toxin.

In carrying out the skin test, 0.1 cc. of the toxin was injected intracutaneously, according to a technic similar to that for the Schick or Dick test, and a reaction 1 cm. or more in diameter was considered positive. All tests were controlled by injecting on the other arm toxin heated for one hour at boiling temperature or neutralized with convalescent serum. Measles antitoxin obtained from an animal immunized with the toxin was also used as a control. Readings were taken at the end of twenty-four or forty-eight hours.

In some instances, false control reactions were encountered when persons were sensitive to the serum used as a neutralizing medium.

2. Persons giving positive histories of measles did not react to intracutaneous injections of the toxin.

Thirty children were tested and in no instance was a positive test recorded. Two adults out of thirty, however, with positive histories have so far reacted positively.

3. Patients in the preeruptive and early stages of the disease gave positive skin reactions to the toxin, while those in the later stages, and especially convalescents, gave negative skin reactions.

In hospital practice it is almost impossible to find a case of measles in the preeruptive stage, but out of fifteen cases obtained as early as possible, seven gave positive reactions and none of the late and convalescent cases, twenty-four in all, reacted to the toxin.

4. When mixed with measles convalescent serum, the toxin will not produce a positive skin reaction in susceptible persons, showing that the convalescent serum neutralizes the toxin. Many of the controls were prepared by mixing measles convalescent serum with the toxin, and in most instances the reaction was negative.

5. When mixed with serum from an animal immunized with the toxin, in other words an artificially prepared antitoxin, the toxin will not produce a positive skin reaction in susceptible persons. This shows that this toxin is capable of stimulating the production of an antitoxin and that this antitoxin has the same neutralizing properties for this toxin as has measles convalescent serum.

This test was carried out on twelve susceptible persons, and in every instance the toxin was neutralized by the antitoxin to such a degree that there was no sign of a reaction on the control arm.

6. When mixed with scarlet fever antitoxin or normal horse serum, the toxin was not neutralized.

Control tests were positive when we used scarlet fever antitoxin and normal horse serum, showing that these serums did not neutralize the toxin.

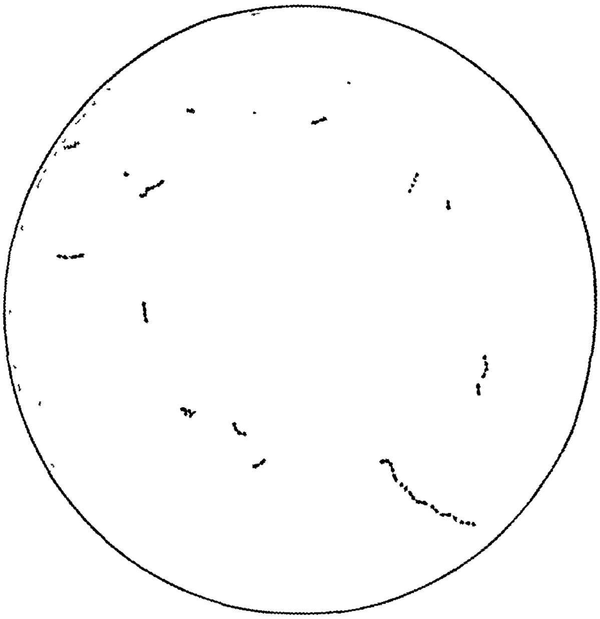

Fig. 2.—Appearance of organism as grown in broth medium.

7. Persons giving positive reactions to intracutaneous injections of the toxin are made to give negative reactions by subcutaneous injections of measles convalescent serum.

Two out of four persons showing positive skin reactions were given 10 cc. of convalescent serum, and after two days all four were retested. The two who received the serum gave negative tests, while the two controls were still positive. This test was carried out by Dr. Martmer of the Herman Kiefer Hospital.

8. A person giving a positive reaction to the skin test was made to show a negative reaction by the subcutaneous injection of the serum of an animal immunized with the toxin, showing that an antitoxin artificially prepared has the same immunizing or neutralizing properties for this toxin as has the serum from a person naturally immune. This is strong evidence of the etiologic relationship of the toxin and streptococcus in question to the disease.

This test was carried out on but one person, but the result was so striking that it was felt that it should be reported.

9. Serum of measles convalescent patients agglutinates suspensions of our measles streptococcus, while negative serum does not.

The serum was from a lot which had been pooled from several convalescent serums obtained from Herman Kiefer Hospital.

Four strains of the measles streptococcus were agglutinated against this serum, and two out of the four reacted.

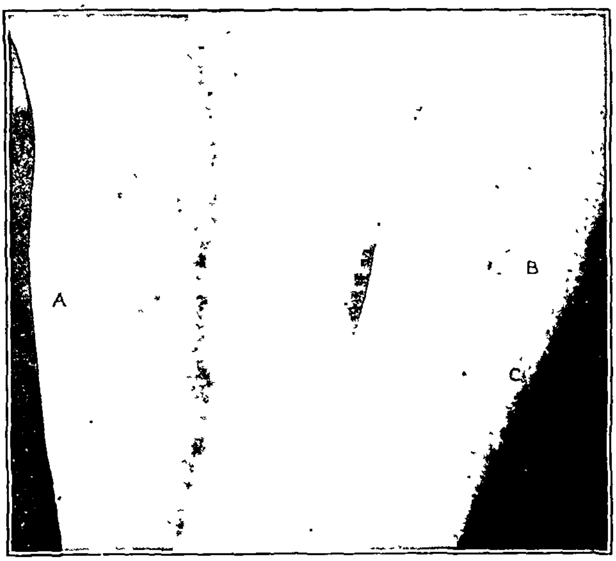

Fig. 3.—Cutaneous reaction with measles toxin: *A*, measles toxin alone; *b*, measles toxin neutralized with measles convalescent serum; *C*, measles toxin neutralized with measles antitoxin.

10. Intracutaneous injections into rabbits of live cultures of our organism produced severe local infections surrounded by large areas of hyperemia, which at times extended over the entire abdomen and back, appearing very much as a typical measles rash.

About 0.1 cc. of broth culture was injected intracutaneously, and within two days there appeared a large raised area, about 4 cm. in diameter, which next day resulted in an abscess with sloughing. One rabbit showed a distinct redness over the entire abdomen and back, while others were more or less hyperemic.

11. Intracutaneous injections of killed cultures of this organism into the rabbit produces at the site of injection a large local reaction not unlike the reaction following the injection of the live organism into the rabbit and the toxin into the human subject.

In every instance, rabbits injected intracutaneously with killed broth culture of the organism showed a reaction about the size of a quarter with, in some instances, a small sterile abscess in the center.

12. Animals injected with the measles toxin will produce serums with antitoxic properties, showing that the toxin is a true extracellular or soluble toxin.

Horses and rabbits were injected subcutaneously with the specific toxin, in a manner similar to the production of other well known antitoxins, and proof of the antitoxic properties of the serum from these animals was evidenced by its ability to neutralize the toxin both in vivo and in vitro.

PHRENIC NERVE INJURY IN THE NEW-BORN

REPORT OF CASE *

EMANUEL FRIEDMAN, M.D.
AND
R. S. CHAMBERLAIN, M.D.
DENVER

In 1921, Kofferath [1] reported a case of diaphragmatic paralysis resulting from injury to the phrenic nerve in association with an injury to the brachial plexus. The paralysis of the diaphragm was discovered shortly after birth, and that of the arm twenty-four hours later. Kofferath was unable to find a single reference to this complication detected immediately after delivery. Ehrenfest,[2] in commenting on this unusual complication, observes that Weigert had collected records of thirty cases including one of his own, and that Kofferath's was the only one in which the diagnosis had been verified by fluoroscopic evidence. Reference to Weigert's [3] original article, bearing the caption "Relaxatio diaphragmatica," makes it manifest that he includes related pathologic conditions. His own case bears the earmarks of diaphragmatic paralysis due to phrenic nerve injury; however, whether sustained at birth or not is not quite apparent. From his discussion we are permitted to gather that some of the included cases undoubtedly represent instances of hernia of the diaphragm permitting the escape of the stomach or the bowels into, usually, the left pleural space; and others, of a poorly developed or rudimentary septum, allowing some abdominal viscera to be crowded into the left thoracic cavity. Of the thirty cases, only two concerned the new-born and two more were found in later infancy.

We have made a diligent search of the available literature and standard textbooks and have failed to find any other record of phrenic nerve injury supervening at birth in connection with or independent of a lesion of the brachial plexus. Apart from Ehrenfest, who quotes extensively Kofferath's article, and Finkelstein,[4] who disposes of the subject with a brief reference to the same publication and to the possibility of such occurrence during labor, no others mention this particular complication.

That this cannot be so unusual an occurrence may justifiably be deduced when we take into account the intimate anatomic relationship of this nerve to the brachial plexus. It is a reasonable assumption that any serious injury to the upper cord of this plexus is quite likely to involve in some measure the filaments that make up the phrenic nerve. Kofferath likewise expresses the belief that this type of injury is not very rare. It is almost invariably overlooked, because the most prominent symptom it gives rise to is common to numerous pathologic conditions frequently encountered in the new-born.

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* Read before the Denver County Medical Society, Nov. 3, 1925.

[1] Kofferath, Walter: Ueber einem Fall von rechtseitiger erbscher Lähmung und Phrenikuslahmung nach Zangenextraktion, Monatschr. f. Geburtsh. u. Gynak 54, 1921.

[2] Ehrenfest: Birth Injuries of the Child, Philadelphia, J B. Lippincott Company, 1922.

[3] Weigert, Richard: Ein geheilter Fall von Relaxatio (Eventratio) diaphragmatica, Beitr. z. klin. Chir, 1920, p. 119.

[4] Finkelstein, H.: Lehrbuch der Sauglingskrankheiten, ed. 3, 1924.

CAUSATION AND SYMPTOMS

Kofferath, by implication, conveys the thought that injury to the phrenic nerve may take place without concurrent harm to the plexus. It is our impression that injury to the nerve innervating the diaphragm will be found far more frequently in association with Erb's palsy than as an isolated phenomenon. It is doubtless brought about under the same circumstances and by the operation of the same forces that eventuate in an upper arm paralysis.

An associated involvement of the brachial plexus will of course be made manifest by an upper arm palsy. The result of injury to the phrenic nerve is paralysis of the diaphragm, betrayed principally by disturbances in respiration. Because these and the associated changes are so accurately detailed by Kofferath, and because no other description of this accident in the new-born is available, I shall recount his findings rather minutely. He noticed that soon after birth the respirations were labored as if some obstruction were present in the upper respiratory tract, and the breathing was thoracic in type. The character of the breathing and evidence of injury inflicted by the forceps at Erb's point on the right side suggested the possibility of traumatic phrenic paralysis. The right brachial arm palsy had not appeared until the following day. The fluoroscopic examination confirmed his suspicions by revealing a classic Kienböck phenomenon, so designated since 1898. The right part of the diaphragm occupied an abnormally high position. Inspiration was accompanied by an ascent of this part of the diaphragm and expiration by a descent, the very reverse of what takes place normally. The left side of the diaphragm behaved in the usual manner. In other words, when the right ascended the left simultaneously descended, and vice versa. Furthermore, the right half of the liver moved in unison with the right half of the diaphragm, and the left lobe synchronously with the corresponding half of the diaphragm. During inspiration the heart was pushed toward the left and downward. The mediastinum showed no widening. The liver was not palpable. By the fourth day, the breathing had resumed its normal type, and there was distinct decrease in the arm paralysis. Three months after birth, the child's respirations and its general behavior were normal. At the age of 4 months, the right part of the diaphragm was still a little higher than its fellow, and aside from increased density the lung showed no abnormality. The two portions of the diaphragm moved in the same direction. The right arm showed no weakness. Labor had presented no unusual features, and was not regarded as difficult.

Symptoms are modified when the paralysis occurs on the left side, allowing the stomach or even the intestines to displace the contents of the left thoracic cavity. Such conditions prevailed in Weigert's case. The cough was distressing, respirations seriously hampered, and digestive symptoms were prominently in the foreground. Physical examination at first suggested rightsided pneumonia, but the frequently changing signs on the left side suggested the existence of diaphragmatic hernia; this was confirmed by the roentgen ray. The patient was in a critical condition for six weeks, when slight abatement in the symptoms took place. Improvement thereafter was progressive, and at 1 year of age the child was quite well and all the viscera were found in their normal position.

When injury to the nerve is slight, symptoms may be mild and transitory and therefore not likely to excite attention.

DIFFERENTIAL DIAGNOSIS

A diagnosis of phrenic nerve injury can be made with certainty only by the roentgen ray. The same agency will likewise disclose nearly all the pathologic conditions from which diaphragmatic paralysis is to be differentiated. Clinically, pneumonia is usually characterized by high fever and leukocytosis; enlarged thymus, by stridor; pneumothorax, by unilateral hyperresonance; cerebral injury, by abnormal spinal fluid; atelectasis, by bilateral feebleness of the vesicular murmur; diaphragmatic hernia, by changing physical signs and displacement of the heart, and congenital heart lesion by a pronounced murmur.

PROGNOSIS

Return of function of an injured phrenic nerve is more gradual than of the arm, and even in mild injuries, is probably not complete for several months. If the injury is severe, permanent paralysis may follow. During the height of the paralysis, because of defective pulmonary ventilation, one would anticipate an increased liability to respiratory infections. If both phrenic nerves are injured, the outlook is exceedingly grave.

PROPHYLAXIS AND TREATMENT

The high incidence of all birth injuries may be appreciably reduced by refraining from injudicious intervention with the progress of labor, and by the exercise of greater care in the execution of necessary manual and instrumental manipulations.

Restitution of function to the injured phrenic nerve will be materially assisted and hastened by appropriate treatment of the injured arm. The laissez-faire attitude of the past is no longer tenable. The cooperation of the orthropedic surgeon should be sought; with the aid of suitable appliances, massage, passive movements and electricity, better results will be insured than heretofore. For the relief of dyspnea, oxygen and appropriate cardiac and respiratory stimulants may be indicated. Nutrition must be carefully maintained and the child sedulously guarded against all infections, particularly of the respiratory type, because the supervention of these would almost certainly end disastrously.

REPORT OF CASE

Our justification for recording the case reported here rests on the conviction that it represents in all probability a not very uncommon birth complication. When the possibility of its occurrence is once appreciated, its discovery is accomplished with ease and certainty. In less than four months after the patient under consideration came to our notice, one of us promptly recognized in consultation another, presenting features almost identical with those here recorded.

History.—S., a girl, seen, Feb. 24, 1925, at the age of 7 days, by courtesy of Dr. S. G. Phillips, was the first born of young healthy parents; labor was not prolonged and was assisted by the application of low forceps. It was estimated that birth was delayed one month beyond term, because of hydramnios. The presentation was vertex, in left occipito-anterior position. The baby weighed 6½ pounds (2.9 Kg.) at birth, and no deformities were noted. The breathing showed no change from the normal, and the cry was vigorous and clear.

Soon after birth, it was discovered that the right arm was motionless. Within twenty-four hours, paralysis of the arm had appreciably decreased. The nurse in attendance had observed during brief periods, at irregular intervals, attacks of mild cyanosis during the first few days of life. These were not considered of serious import. The baby nursed well, did not vomit, and the stools were normal. Its behavior and appearance, apart from the arm palsy and the fleeting attacks of cyanosis, were considered normal in all respects.

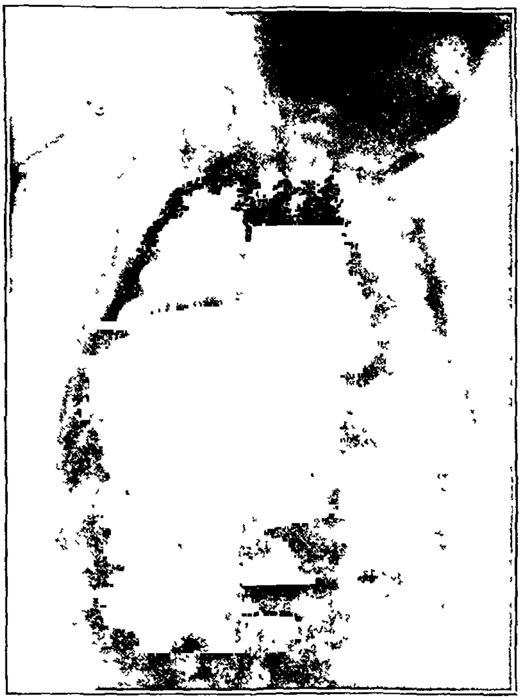

Fig 1.—Abnormally high right side of diaphragm due to paralysis of phrenic nerve, seventeen days after birth

At the age of 7 days, the infant was well nourished and normally developed, weighing approximately 7 pounds (3.2 Kg.) Its cry was clear and lusty. Turgor of the skin and muscles was good There were no external evidences of injury. Cyanosis was not present. The visible mucous membranes showed good color. Respirations were not unduly accelerated, nor did they deviate from the normal in any other manner. The right arm showed complete immobility, and movements in the forearm and hand were only slightly impaired. No other paralyses were noted. The knee jerks responded normally. No abnormalities were detected in the heart, lungs and abdomen. The temperature was not elevated

Diagnosis of an obstetric paralysis was made, and in order to exclude a cerebral injury, spinal puncture was deemed advisable. The fluid did not escape under increased pressure and was normal for the usual tests

Course and Developments.—March 5, sixteen days after birth: The respirations had often been irregular in rhythm and increased in rate for the past three days. The upper lip was almost constantly bluish. The baby cried only when it was hungry, and the voice was clear and strong. Cough was not present. The appetite and digestion were normal. During the early morning hours of the 5th, the cyanosis became more marked and the circulation enfeebled to such degree that the nurse believed a fatal termination imminent. The response to emergency measures was unexpectedly prompt and permanent. The baby did not appear seriously ill. The upper lip showed a faint cyanotic tinge. During crying, the mucous membrane of the upper lip became blue. Respirations were 72, were unimpeded, and presented a slight irregularity in rhythm. Percussion elicited impaired resonance in the lower posterior two thirds of the right side of the chest, merging into distinct dulness at the base. In this area the breath sounds were enfeebled, and numerous crepitant râles were heard. The heart action was 140 a minute, and no murmur was audible. The abdomen was somewhat sunken; the liver was not palpable and its upper border was at the level of the nipple. The right arm moved freely. The temperature was normal.

A diagnosis of pneumonia was made and a roentgen-ray examination recommended to determine more definitely the extent of the involvement and also to exclude any possible congenital abnormality of the chest. A roentgenogram was taken, March 6, by Dr. Coleman, who found that the right part of the diaphragm occupied a position about 3½ interspaces above that of the left. The right apex showed clouding. The heart was normal in position. The thymic shadow was found moderately enlarged. The following day fluoroscopy of the chest was done, and the paradoxical movements of the two parts of the diaphragm described by Kofferath were clearly visualized. On inspiration, the right part of the diaphragm was pushed upward by the increased abdominal tension exerting pressure in the direction of least resistance; on expiration, with the tension released, the diaphragm resumed its former level. The left part of the diaphragm moved during either respiratory cycle in a direction opposite to that taken by the right, thus giving rise to a seesaw motion. The excursion of the injured side was slightly less than that of the opposite side.

This phenomenon could have arisen only in consequence of paralysis of the phrenic nerve, effected, without any reasonable doubt, by the same means which had injured the brachial plexus on the same side

March 7: The child had experienced no further difficulties in breathing, and the cyanosis had noticeably abated.

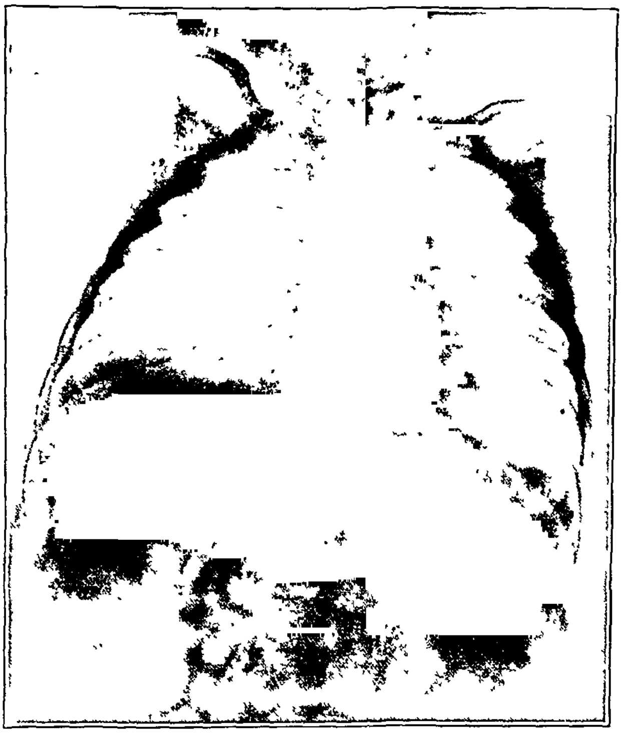

Fig 2.—Right side of diaphragm in normal position, at age of 8½ months

We were unable to induce the mother to return for further fluoroscopic observations. A house visit by one of us, April 13, when the child was 7 weeks old, disclosed the following facts: The baby's development, in the mother's opinion, had proceeded normally. The patient was contented, was good natured, cried only when hungry, and was gaining steadily in strength. The weight, two weeks previously, was 7 pounds (3.2 Kg.), and it had gained 13 ounces (400 Gm.) since. The baby had been fed Dryco for two weeks; the appetite was good, and the digestive disturbances had ceased since the last change in feeding. Breathing had been fast, irregular (about 78 and more hurried after crying) and probably of the Cheyne-Stokes type; but there has taken place a noticeable improvement in this particular in the last three weeks. Stridor had never been present, and cough only very rarely. Hiccup was often noted but was declining in frequency. There had been no cyanosis for several weeks. The baby slept undisturbed for from eighteen to twenty hours a day. No fever was evident at any time. The arms moved perfectly. The infant was strikingly emaciated, with flabby musculature and pronounced inelasticity of the skin. The voice was clear and vigorous, and crying produced slight cyanosis restricted to the upper lip. Respirations were 40, noiseless, but accomplished with a distinct effort. During inspiration an undue degree of expansion of the chest, particularly in the sternal region, was observed with slight epigastric recession. The right side of the chest showed normal resonance, except at the base of the axilla and posteriorly below the level of the sixth rib; the dulness becomes more marked as the base was approached. In the dull area the vesicular murmur was feeble almost to the point of extinction, and crepitant râles were audible. Tactile fremitus during crying was likewise markedly diminished. The left lung showed hyperresonance, with loud breath sounds. The heart action was of good quality, 120 a minute, with no evident displacement. The abdomen was sunken and relaxed and showed normal excursion with respiration. The liver dulness was normal. The temperature was not raised. The arm showed no weakness. The knee jerks were active.

Not until the baby was almost 8½ months old, October 30, were we again able to examine her. The mother stated that the respirations became gradually slower and were considered normal when she was about 3 months old. Cyanosis did not recur. Cough was not in evidence. The baby was at all times contented; both physical and mental development had proceeded satisfactorily, and appetite and digestion were uniformly good. She weighed 16 pounds (7.3 Kg.) and was normal in every respect. She had firm muscles, glowing skin, was able to stand with assistance, and had two teeth. Examination of the chest revealed no departure from the normal. A roentgenogram made by Dr. Coleman showed the right side of the diaphragm a very trifle, perhaps the equivalent of half an interspace, above the normal level. Fluoroscopic examination showed the same range of motion of the two sides of the diaphragm, and they acted synchronously.

SUMMARY AND COMMENT

Shortly after normal birth, with neither difficult nor unduly protracted labor, in which low forceps were used, paralysis of the right arm was discovered in a girl baby. When she was about 13 days old, respirations became hurried and irregular, and occasional cyanosis was noted. Three days later, a severe attack of cyanosis occurred, lasting several hours and necessitating emergency measures. At this date feeble breath sounds and moisture were heard in the right lung, leading to a diagnosis of pneumonia. However, the right side of the diaphragm was high, with a paradoxical movement, as shown by the fluoroscope. Paralysis of the arm disappeared in less than two weeks. Slight cyanosis recurred at times but was unaccompanied by any serious respiratory difficulty. Breathing was fast and irregular for three months. The progress thereafter was satisfactory. When the baby was 7 weeks old, the right lung findings were identical with those previously recorded. At 8½ months, she enjoyed perfect health and showed normal development and normal lungs; the fluoroscope showed no abnormality beyond a very slight elevation of the right half of the diaphragm.

Recognition of the condition was accidental and was effected by means of the roentgen ray. Pressure of the blade of the forceps was probably responsible for the injury.

Kofferath's case differed from ours in that the respiratory disturbances appeared earlier, were mild in character, and disappeared in a few days. Cyanosis and abnormal lung findings were not present. Weigert's patient, contrary to our own, showed leftsided diaphragmatic paralysis, with serious digestive manifestations, and unassociated with brachial palsy.

CONCLUSIONS

Phrenic nerve paralysis is probably not a rare type of birth injury.

Its presence should be excluded in every case of brachial palsy.

The same obligation devolves on the medical attendant when the new-born baby displays cyanosis, irregular labored or accelerated respirations, unilateral diminution of breath sounds with or without moisture, or serious digestive difficulties.

Metropolitan Building.

CHOLECYSTOGRAPHY

H. M. RICHTER, M.D.
CHICAGO

The value of cholecystography as developed by Graham and Cole and elaborated by others is sufficiently evidenced by the rapidity with which its use has become all but universal. The clearness with which calculi are so often visualized, the persistent absence of a positive shadow under certain conditions, the ease with which the emptying time of the bladder can be determined and its malformations portrayed, and the outstanding shadow of the normal bladder have carried the medical profession by storm. Patients with advanced gallbladder disease in whom the clinical history is atypical or difficult to obtain are not rare, and in these cases the new method has diagnostic value. Its use has been of the greatest value to us.

I wish to warn against a source of error in interpreting the normal shadow and to call attention to a peculiar psychologic process by which the use of the method may actually become a positive source of confusion. The source of error lies in the fact that one is likely to visualize gall tract infection in terms of gallstones and advanced pathologic conditions. But gallstones do not spring into existence after the manner of the miltonian conception of Genesis. It has been estimated that the patient with gallstones comes to operation after an average of approximately twenty years of incubation and development of his infection. To accommodate our phraseology to the modern conception of the origin of gallstones, which includes the idea of metabolic as well as infective origin for many cases, we may state the case thus: A properly developed anamnesis, not a history taken perfunctorily by a junior intern, will bring out clinical data of suggestive and diagnostic value extending back over an average period of that length of time in the patient's life.

It is noteworthy that, though we are quite well aware of the long story of the evolution of gallstone disease, it requires a conscious effort to realize, and some do not realize, that it is not gallstone disease at all on which we should focus our attention, but the antecedent condition of which gallstone disease is only a late complication. We have no short and apt designation for this antecedent pathologic and clinical process. Neither cholecystitis, gall tract infection, gallbladder or gall tract disease is accurately applicable to all forms or stages of the condition. It includes infection, altered cholesterol metabolism, and gallbladder stasis, in varying degree and duration. Either or any two of these may be absent.

Infection usually manifests itself more obviously in the gallbladder; but an associated hepatitis is probably always an early, and possibly at times an antecedent, condition. Lymphatic extension obliterates anatomic boundaries, and the pancreas, duodenum and pyloric antrum probably always participate in the early pathologic picture.

These varied and widespread changes are usually of insidious development, and their gross alterations so slight that even to the experienced eye and finger they may be difficult to recognize at the operating table.

Even the sudden onset of the typical picture of gallstone colic may be quite unassociated with a materially altered gallbladder structure, except during the attack itself. When colic suddenly supervenes on a condition of adolescent cholesterin stones, there is usually but one small stone, rarely more than two or three, of pea size, and totally unassociated with gallbladder changes except during and shortly after the mechanical accident. When the onset is sudden, with extreme pain, during pregnancy or the puerperium, the immediate condition is usually one of acute stasis, with thick, tarlike bile unable to pass the cystic duct. During the acute attack, cholecystography is unnecessary; after it has passed, it is useless, for the gallbladder is practically normal.

During the terminal stage of the evolution of gallstones the new roentgenographic evidence is of great interest, undoubtedly accurate when positive, and often of great value. For some years before the terminal stage is reached, it becomes decreasingly accurate, for with less advanced changes in the gallbladder wall and cystic duct lumen, the dye may reach the gallbladder readily, and its condensing function and contractility must be but partially impaired.

But when we visualize gallbladder disease in terms of early pathologic changes, chronologically at the period of early symptoms of extragastric dyspepsia, when the alert physician really wishes to make a diagnosis, and often can do so on the history alone, we find that not only must cholecystography fail, but the beautifully clear cut roentgenogram of the typically normal gallbladder actually directs the attention away from it as the source of trouble. This danger cannot be overemphasized.

Gallbladder infection is clinically recognizable in a large proportion of cases before stones are present, and long before the gross appearance of the gallbladder is greatly changed or its function materially or persistently deranged. This is so true that, given a satisfactory clinical history, we are willing to remove a gallbladder that appears to be normal when the abdomen is opened.

If we may divide the life history of gallbladder infection into periods, we might say that during the terminal quarter or third or even half of the duration of the disease the anatomic and functional changes in the gallbladder are likely to be portrayed with great accuracy by cholecystography; during the first third or half of the period, there can be no logical basis for assuming even the possibility of demonstrable changes; with an overlapping middle period of variable duration.

To permit ourselves to develop a furor for diagnostic methods at this stage of the disease is very much like waiting for gallstone colic and jaundice as diagnostic aids, which may be likened to making a diagnosis of pregnancy when the head is on the perineum (with apologies to Moynihan).

The outstanding value of cholecystography is fully recognized.

Its inherent dangers must be quite as fully appreciated. These are:

First, that it fosters a tendency to think in terms of late pathologic changes.

Second, that the normal shadowgraph is likely to direct attention away from the actual source of trouble.

104 South Michigan Avenue.

IRON THERAPY IN THE ANEMIAS OF INFANCY

ITS CURATIVE VALUE *

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AND
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The difference between the vital reactions of infants and adults has been emphasized repeatedly. This difference is evident also in the mechanism that governs the supply and the maintenance of the level of hemoglobin in the blood. Most of the iron is laid down in the fetus during the last three months of gestation. Thus the duration of pregnancy, whether complete or prematurely shortened, is a vital circumstance in the new-born infant's supply of iron. This is particularly important because human milk and cow's milk are extremely poor in iron; indeed, "there is less iron in milk than in almost any food. . . . The small amount of iron in milk is the more remarkable since all other inorganic foodstuffs are contained in milk in just the proportion in which they are needed for the growth of the suckling animal. . . . The explanation of this contradiction is that the young animal at birth contains a large store of iron for the growth of its tissues. . . . At least five times more iron is found in the liver of a new-born than in that of full-grown animals."[1] The reserve supply of iron at birth explains the suckling animal's ability to grow rapidly and increase its blood supply in spite of the deficiency of iron in the food. Very briefly, then, this is "the iron depot theory" of Bunge.

Bunge's theory clarified certain clinical observations that have found wide acceptance among pediatricians. Premature infants almost uniformly develop anemia as the result, it is assumed, of the curtailed period allotted to them for the deposition of iron. The anemia of twins is almost as common as that of premature infants and the explanation of its occurrence is similar. A third form of infantile anemia, the so-called alimentary anemia, also may be associated with the iron depot theory, though this is questioned by some writers. This type occurs in infants fed too long on an exclusively milk diet or on a diet predominantly of milk with an inadequate supply of green vegetables or other iron-containing food. According to one theory, this anemia

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* From the Pediatric Service, Mount Sinai Hospital.

[1] Bunge, C.: Physiological and Pathological Chemistry (translation), 1902, p. 377.

is due to the failure to replenish iron which naturally becomes depleted by the ninth or twelfth month of life. The second theory, championed by Czerny and his pupils, traces the origin of alimentary anemia to the toxic or hemolytic effect of the fat of milk, and the treatment he recommends is purely dietetic.[2]

There are other forms of anemia in which iron therapy is not indicated. Anemia secondary to chronic infections, syphilis and tuberculosis, anemia secondary to prolonged pyogenic infections, and the anemias secondary to avitaminoses, rickets and scurvy, are to be attacked by eliminating or alleviating the cause, not by administering iron.

Continental authors long ago discarded the vague term "secondary anemia" for the anemias of infancy and they have added a more vivid, accurate and descriptive terminology, "anemia ex constitutione," which includes the anemias of premature infants, of debilitated infants and of twins; "anemia ex alimentatione," which refers to nutritional anemia; "anemia ex infectione," which refers to the anemias secondary to infection; and, finally, the anemias associated with special conditions, such as worms and rickets. There is often more than one etiologic factor; an anemic, premature infant is more susceptible than a normal, full term infant to rickets and infections, which, in turn, accentuate the anemia.

This brief classification serves another purpose: to call attention to the futility of grouping all secondary anemias under one heading. Not only are the secondary anemias of infancy different from those of adult life, but they vary among themselves in etiology, pathogenesis, clinical course and therefore also in treatment.

Among recent American authors there is almost universal condemnation of the use of iron in "anemia." It is interesting to trace the origin of this opinion even before questioning the correctness of the view itself.

In general, the belief in the uselessness of iron is based not on iron therapy in man, but on the results in animal experimentation. These results have been applied almost literally to human pathology. As an example, Williamson and Ets performed experiments on animals: inorganic iron was given to rats and dogs that were fed an iron-free and an iron-poor diet; and to a second series of animals made anemic by repeated bleeding. Yet one of their conclusions is this: "In the light of the foregoing experiments, the administration of inorganic iron has no therapeutic value in anemia." [3] It should be unnecessary to point out the inherent difference between the bled adult dog and the naturally anemic premature infant; to be comparable at all, the conditions of an animal experiment must reproduce as closely as possible the clinical picture.[4]

Though many physicians may be prepared to translate verbatim such animal experimentation into terms of human pathology, the pediatrician cannot do likewise; for there are too many carefully controlled clinical observations bearing directly on the anemias of infancy which cannot be put aside lightly. Thus, Lichtenstein's opinion is based on the prolonged observation of ninety-two premature infants, certainly an extremely large number of cases. "Through his investigations and clinical observations he has come to the conclusion that iron therapy is necessary and accomplishes its purpose with or without special diet. . . . The effectiveness of iron therapy confirms the author's opinion of the essential nature of all anemias of premature children as well as of alimentary and of Hayem-Jaksch anemia; the essential causes are a deficient iron depot in the sense of Bunge and a functional inferiority of the hematopoietic apparatus." [5] Space does not permit quotation of the conclusions of Schulthess, in Feer's clinic.[6] His experience parallels our own minutely. Almost identical conclusions may be found in Finkelstein's textbook.[7] The point of view of the French, who use the term "anémie à type chlorotique," is thus summarized by Tixier: "The only interest for the practitioner in the diagnosis of this form of anemia is to understand that in the large majority of cases he should substitute progressively a nutriment rich in iron for the milk regimen, that he can give the parents the assurance that the anemia will disappear with astonishing rapidity under the influence of iron medication, and that finally it is not indispensable to continue iron for a long time." [8]

In America, not all pediatricians have been dominated by the results of experiments on animals. To Schwarz and Rosenthal belongs the credit of having recognized this tendency in the therapy of anemia. In 1920 they said, "As is frequent in medicine, certain laboratory and dietetic principles, decidedly popular, assume complete preeminence at the expense of older and valuable methods of treatment." They conclude that the administration of iron in this condition, "the chlorotic type of anemia," meets with an excellent response.[9]

REPORT OF CASES

CASES 1 and 2.—Hazel and Pearl D., identical twins, were admitted to Mount Sinai Hospital, Dec. 25, 1920, at the age of 1 year, complaining of abdominal distention, malnutrition and pallor. The family history was negative for tuberculosis and syphilis. They were born at term and weighed 6 pounds (2.7 Kg.) at birth. They were breast fed for six months. During their second half year they had attacks of diarrhea, their abdomens had grown progressively larger, and they had become very pale. There had been no bleeding of any kind.

Blood Examinations

HAZEL		PEARL	
Hemoglobin	30%	Hemoglobin	31%
Red blood cells	3,250,000	Red blood cells	2,720,000
White blood cells	25,100	White blood cells	24,900
Polymorphonuclear neutrophils	50%	Polymorphonuclear neutrophils	50%
Lymphocytes	30%	Lymphocytes	40%
Monocytes	9%	Monocytes	5%
Myelocytes	8%	Neutrophilic myelocytes	3%
Myeloblasts	3%	Basophilic myelocytes	2%
Ten normoblasts were found for each 100 white cells counted. Basophilic stippling, poikilocytosis and polychromatophilia were present.		Ten megalocytes and 200 normoblasts were found for each 100 white cells counted. Anisocytosis, basophilic stippling and polychromatophilia were present.	

The children were poorly nourished, very pale, and unable to stand. The superficial lymph nodes were slightly enlarged. Signs of rickets were pronounced; the abdomens were markedly distended and tympanitic; the edge of the liver was felt 4 cm. below the free border of the ribs; the edge of the spleen extended to the crest of the ilium. Specimens of urine were normal. The Wassermann and Pirquet tests were negative.

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[2] Our results in estimating the urobilin of infants with alimentary anemia showed no increase in hemolysis and failed to confirm Czerny's contention. Bass, M. H.; Denzer, B. S., and Herman, Harold: Urobilin Excretion in Anemias of Infants and Children, Am. J. Dis. Child. **27**: 433 (May) 1924.

[3] Williamson, C. S., and Ets, N. H.: The Value of Iron in Anemia, Arch. Int. Med. **36**: 333 (Sept.) 1925.

[4] Other similar instances are to be found in the literature: Views Regarding Iron in Therapy, editorial, J. A. M. A. **78**: 512 (Feb. 18) 1922. Lucas and Fleischner, in Abt's Pediatrics **4**: 485 ff. Finally, Whipple, whose laboratory experiments seem to have had greatest influence in modifying clinical views concerning the value of iron therapy, apparently has reversed his opinions of a few years ago: Whipple, G. H: Iron in Anemia, J. A. M. A. **86**: 367 (Jan. 30) 1926.

[5] Lichtenstein, A.: Abstr, Jahrb. f. Kindh. **88**: 387, 1918.

[6] Schulthess, H.: Schweiz. med. Wchnschr. **2**: 998, 1921.

[7] Finkelstein, H.: Saueglingskrankheiten, ed. 3, 1924, p. 767.

[8] Tixier, L.: Médecine **2**: 483 (March) 1921.

[9] Schwarz, H., and Rosenthal, N.: Arch. Pediat. **37**: 1 (Jan.) 1920

An excellent opportunity presented itself here to test the efficacy of iron therapy by prescribing the drug for one twin while using the other as a control. Hazel was given 10 grains (0.65 Gm.) of saccharated ferrous carbonate three times daily with 1 drachm (4 cc.) of cod liver oil. Except for this medication the diets and care of the two children were identical and they were placed in adjoining beds. The hemoglobin of the child receiving iron began to rise as follows (chart 1).

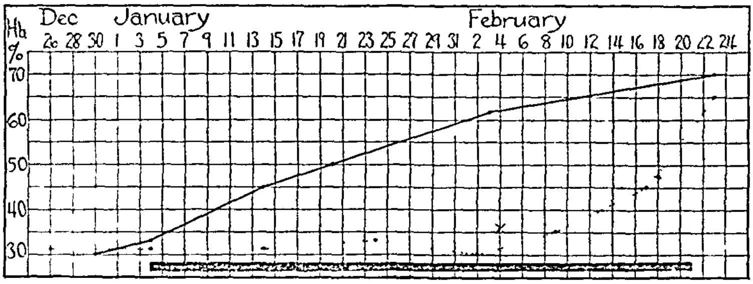

Chart 1 (cases 1 and 2).—Hemoglobin percentage: solid line, Hazel; dotted line, Pearl; X, transfusion; heavy horizontal line, saccharated ferrous carbonate, 0.65 Gm., three times a day.

January 4, hemoglobin, 32 per cent.; iron begun.
January 14, hemoglobin, 45 per cent.
January 20, hemoglobin, 50 per cent.; red blood cells, 4,000,000.
February 3, hemoglobin, 62 per cent.; red blood cells, 4,300,000.
February 23, hemoglobin, 70 per cent.

January 25 there was a striking improvement in the condition of Hazel. There had been a recession of the size of the spleen and liver. The child was gaining in weight. The hemoglobin was up to 50 per cent, with a corresponding increase in the number of red blood cells.

The twin, Pearl, who received no medication, failed to show any change in hemoglobin. January 24, she still had 32 per cent and a red blood cell count of 2,800,000. She developed fever, which gradually assumed a septic type; she became more and more prostrated and showed signs of a very severe pharyngitis. As she seemed about to succumb to this virulent infection, she was given a transfusion of 275 cc. of her father's citrated blood. This checked the illness, the fever subsided, and the hemoglobin began to rise, as follows:

February 2, hemoglobin, 30 per cent.
February 4, transfusion.
February 9, hemoglobin, 35 per cent.
February 17, hemoglobin, 45 per cent.
February 23, hemoglobin, 65 per cent.

It is rare in the clinic to be able to make observations as carefully controlled as in most animal experimentation. Twins, particularly single ovum twins as these probably were, resemble each other minutely in almost all their reactions;[10] indeed, they are much more nearly alike than two animals of the same litter. Furthermore, in the hospital they were subject to the same hygienic conditions and received the same diet. The sole difference was that Hazel received the cod liver oil and iron. Yet the difference in the two children was remarkable: the difference between an increase of 30 points in one case, as opposed to progressive weakness with resulting infection of such severity that transfusion became imperative. Cod liver oil could not have been responsible for this transformation, even assuming that rickets was of major importance in the development of the anemia; for the improvement in the anemia occurred in days whereas the cure of rickets is a matter of weeks and months.

These cases serve to emphasize another phase of the therapy of anemia. Why are there not more dire results when iron is not administered? In other words, what happens to anemic children who do not receive iron? In the group of children with mild anemia there is a strong tendency to spontaneous improvement and sometimes to cure with advancing age. Thus, many of these babies develop into children somewhat pale and generally inferior, and the infantile anemia responsible for their condition may be forgotten entirely. Another group of infants succumb to intercurrent infection, and the anemia plays an important but often unsuspected part in the fatal outcome. One of us[11] has called attention to the relation between pneumonia and anemia and the beneficial effects of transfusion. A third group of infants develop anemia of such severity that transfusion becomes an emergency measure. To this group, Pearl D. belongs. When seen at this late stage of anemia, one is apt to forget that iron therapy earlier in the disease might have prevented a catastrophe, or at least rendered drastic measures unnecessary.

Case 3.—J. M., a boy, was seen by one of us (M. H. B.) when 9 months old. The child was delivered by cesarean section about two weeks before term. The birth weight was 7 pounds 2 ounces (3.2 Kg.). For the past two months the child had looked pale. He was breast fed for only ten days, and thereafter was placed on the usual milk, water and sugar mixture with additional cereal at 6 months. On examination the baby was pale, and weighed 18 pounds 2 ounces (8.2 Kg.). He had six teeth, and there were no signs of rickets. The spleen and liver were not enlarged. Hemoglobin was 42 per cent. Soup was added to the diet and saccharated ferrous carbonate, 10 grains (0.65 Gm.) three times a day, was ordered. Twenty days later the child's weight was 19 pounds 10 ounces (8.9 Kg.) and the hemoglobin was 63 per cent.

Case 4.—E. O., a boy, was admitted to Mount Sinai Hospital at the age of 2 years and 3 months. The child was an eight months' premature baby weighing 4 pounds (1.8 Kg.) at birth. At 1 month of age he had a convulsion. Although the weight had not been followed accurately, the child evidently had been below normal. Dentition and walking had been slow; and mentally he had been retarded slightly. The child was breast fed for six months. From then to the eighteenth month he received milk. At that time an attack of diarrhea, vomiting and fever of two weeks' duration was followed by severe weakness. Since then the diet consisted of a quart (liter) of milk, orange juice and crackers. Eggs, broth and cereal were offered to the child, but he refused to take any-

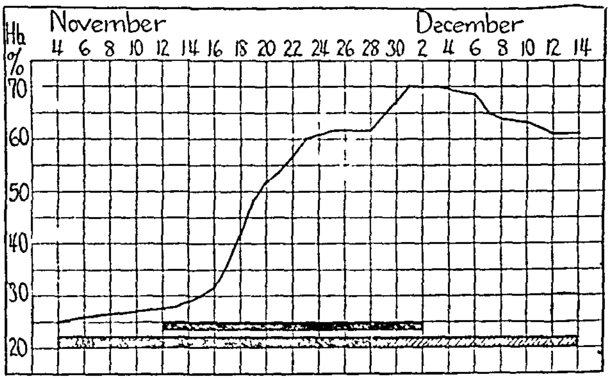

Chart 2 (case 4).—Hemoglobin percentage: heavy horizontal line, saccharated ferrous carbonate, 1.3 Gm., three times a day; stippled line, diet of milk, cereal and toast only; shaded line, full diet, including vegetable and soups; hemoglobin taken at 2:30 p. m. by same person using Sahli Kuttner apparatus corrected.

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10. Abt, I. A.: J. Iowa State M. Soc. **14**: 395 (Sept.) 1924.

11. Bass, M. H.: Association of Anemia and Pneumonia in Infants, Am. J. Dis. Child. **29**: 318 (Sept.) 1925.

thing but milk and crackers. He had been growing progressively paler. He had pertussis, mumps and chickenpox before the eighteenth month, but had had no infections since then. The child was well developed but flabby, with evident anemia and moderate rickets. For several days the diet consisted only of milk, cereal and orange juice. Thereafter saccharated ferrous carbonate, 10 grains (0.65 Gm.) three times a day, was prescribed. The resulting increase in hemoglobin is given in chart 2.

Case 5.—R. B., a boy, was admitted to Mount Sinai Hospital at the age of 8 months. The infant was a seven months premature baby weighing 5 pounds 8 ounces (2.5 Kg.) at birth. During the first two weeks of life the child appeared blue. The father had tuberculosis, supposedly in an inactive form. The child was breast fed for six weeks. After that he received various milk, water and sugar formulas. For three weeks the child had been given farina. He had never had vegetable soup, orange juice or cod liver oil. On examination he was pale and weighed 12 pounds (5.4 Kg.). There were no signs of rickets. The spleen could not be felt, and the liver reached the costal margin. The hemoglobin was 40 per cent. The course is given in chart 3. During the period (seventeen days) when a full diet plus cod liver oil and ultraviolet light were given, the hemoglobin remained at 40 per cent. When iron was added and cod liver oil and ultraviolet light were discontinued, the hemoglobin rose to 64 per cent in twenty-five days.

This case illustrates the rapidity of the response to iron as compared with vegetable feeding only. It is not to be denied that an infant with moderately severe anemia, particularly if vegetables, broths, etc., are added at 8 months of age, will improve under dietetic treatment only. But the response to this therapy is slow, a matter of months and not weeks, whereas iron hastens and completes the process.

The relation of anemia, iron therapy and infection may be illustrated by reference to two cases which will not be reported in detail. L. B. and R. R., suffering primarily from nutritional anemia, passed through a series of infections while under observation in the hospital. Iron given in large doses during the infection failed to produce an increase in hemoglobin. After the subsidence of the infection, the hemoglobin rose gradually and very slowly. Iron administered during an infection fails to improve the anemia.

The use of iron in two groups of cases, namely, children recovering from infections and children with a very mild or questionable anemia, has caused iron therapy to fall into disrepute and has led to much loose prescribing and loose thinking concerning the problem of secondary anemia. In the first group the children receive a "little tonic" to build them up following an infection, and the anemia improves along with the general improvement in health and the freedom from infection, regardless of iron therapy. In the second group, the children with very slight anemia, giving a tonic satisfies the parental wish for "something to be done."

THE DOSAGE OF IRON

In our work we have used only saccharated ferrous carbonate in amounts varying from 30 to 60 grains (2 to 4 Gm.) a day. In other words, we adhere to those who believe in large doses of iron. We do not imply that this is the best or the only method of administering iron, but we do emphasize the fallacy of condemning iron therapy after using only small doses. In other words, the results of different authors with iron therapy may be comparable only if the dosage is similar.

Most clinical studies of secondary anemia have emphasized only the iron content of hemoglobin. There is another aspect of the problem which refers not to the iron content of hemoglobin so much as to its protein portion. Hemoglobin is composed of a protein, globin, and an iron-containing part, hematin. The hematin part of the hemoglobin molecule contains a particular molecular grouping, the pyrrol group, which cannot be synthesized by animals. According to Abderhalden, milk in particular contains little or none at all of these pyrrol structures.[12] "It is not improbable, therefore, that inorganic salts added to an exclusive milk diet are not utilized, simply for the reason that other component parts of the hemoglobin molecule, as important as iron itself, are either lacking altogether in the milk diet, or are present therein in insufficient amount to subserve the needs of the blood-forming organs." [13]

Recently Hart, Steenbock and Evehjem[14] have presented further data "which support the original hypothesis of Abderhalden that hemoglobin can be built from inorganic iron in the diet only when that diet is accompanied by certain organic structures, and further that milk is not only low in iron but that it is also low in the organic complexes that make possible the building up of hemoglobin." Briefly, the results of their experiments may be thus summarized:

1. Anemia produced in rabbits by an exclusive milk diet was not cured by the addition of inorganic iron to the diet.
2. When cabbage and iron were added to the milk diet, the anemia was cured promptly.

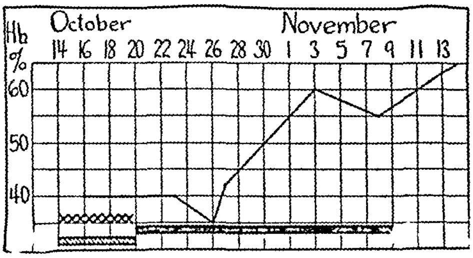

Chart 3 (case 5).—Hemoglobin percentage: mixed diet, i. e., farina, vegetable, milk formula; line of x's, quartz lamp; shaded line, cod liver oil; solid line, saccharated ferrous carbonate, 0.65 Gm., three times a day.

3. As cabbage also contains iron, it became necessary to render the cabbage iron free, and an alcoholic iron-free extract of cabbage was prepared. This, with inorganic iron added to the milk diet, cured the anemia. Chlorophyl, the iron-free coloring matter of plants, and also an iron-free extract of corn meal plus inorganic iron, produced the same result. "Evidently these two different types of plant material contain certain substances soluble in alcohol and free from iron which are intimately concerned with hemoglobin formation."

In the light of these experiments, it is interesting to note that at the time when infantile anemia becomes manifest (about the sixth month) it is customary for pediatricians to add cereal to the diet and before the ninth month to include vegetable extract or purée. When inorganic iron is given to such children, the protein building stones necessary for the synthesis of hemoglobin are probably already a part of the diet, and the ingredients of the hemoglobin molecule therefore are complete. Thus, empirically the requirements worked out in the laboratory have been fulfilled.

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12. Abderhalden, Emil: Lehrbuch der physiologischen Chemie, ed. 5, 1923, part 2, pp. 29 ff.
13. Robertson, T. B.: Principles of Biochemistry, ed. 2, 1924, p. 49.
14. Hart, E. B.; Steenbock, Harry; and Evehjem, C. A.: J. Biol. Chem. 65: 67 (Aug.) 1925.

SUMMARY AND CONCLUSIONS

1. The use of inorganic iron has been approached from the standpoint of animal experiments not comparable to clinical anemias, at least to those of infancy.
2. The subdivision of secondary anemias of infancy is of service in emphasizing differences in etiology, pathogenesis and treatment.
3. The iron depot theory of Bunge applies to the nutritional and constitutional anemias of infancy.
4. Anemias due to infection do not respond to iron.
5. The affirmation of the value of inorganic iron in the anemias mentioned does not imply the uselessness of dietary or other forms of organic iron. On the contrary, in the prevention of anemia attendant on a too prolonged milk diet, the use of green vegetables, beef extracts and liver still has, and has had, a well established place in pediatric practice for more than a generation.[15]

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TOXIN-ANTITOXIN

HYPERSENSITIVITY TO ITS PROTEIN CONTENT *

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Toxin-antitoxin mixture, as now made in accordance with the technic of Park[1] and his assistants, has proved itself remarkably free of the protein element from the clinical as well as the laboratory standpoint. A five year clinical study has proved satisfactorily the inability of toxin-antitoxin to sensitize individuals to horse protein; this conclusion is based on the following premises:

A group of individuals coming to the asthma clinic of the Germantown Hospital was tested, as a routine, for susceptibility to horse protein. At the same time, a test was made on this group with toxin-antitoxin without dilution, the scratch method as well as the intracutaneous test being employed. No individuals, even those susceptible to the usual test for horse protein, gave any reaction whatever to toxin-antitoxin.

One hundred were so tested, and of these 2 per cent reacted to the horse protein (H. B. W.). None of these showed any reaction to the toxin-antitoxin when given a 0.2 cc. intradermal dose.

The Park test showed a pseudoreaction in 8 per cent of 10,000 children, not necessarily asthmatics or previously known to be susceptible to horse protein (E. L. B.). The pseudo Schick reactions in 40,000 children were found in 10 per cent of the cases (E. L. B.). These pseudoreactions are of no significance from the standpoint of constitutional reaction to toxin-antitoxin.

Fifteen children suffering from asthma due to horse protein sensitivity were given the full course of treatment with toxin-antitoxin, and their reaction differed in no wise from the reaction of those who were absolutely well. No effort was made to desensitize them before the treatment was carried out.

In 100,000 children,[2] twelve contracted diphtheria either during or shortly after the toxin-antitoxin treatment and were given antitoxin, with no evidence of hypersensitivity. The same is true of 100 contacts to diphtheria who had not had time to develop active immunity. However, not all of these had been tested prior to toxin-antitoxin administration. Twelve were given tetanus antitoxin during or subsequent to toxin-antitoxin injections, one as long as one year after, and only one of the twelve had any reaction. This boy had given a reaction to the horse serum test before toxin-antitoxin administration, but had had no asthma. He was quite ill, with a fever of 103, urticaria and joint pains for two days. We have seen the same reaction many times following tetanus and diphtheria antitoxin administration not preceded by toxin-antitoxin or other serum treatment.

Tetanus antitoxin given during or subsequent to toxin-antitoxin:
- After second injection of toxin-antitoxin:
  - Two cases—no reactions.
- After third injection of toxin-antitoxin:
  - Within one month—three cases—no reactions.
    - One protein tested prior to toxin-antitoxin administration.
  - Within six months—five cases.
    - Two protein tested prior to toxin-antitoxin administration.
    - One of those susceptible gave reaction already quoted.
  - Within one year—two cases.
    - One protein tested prior to toxin-antitoxin administration.
    - One susceptible to protein prior to toxin-antitoxin administration.
    - No reactions.

Diphtheria antitoxin given during or subsequent to toxin-antitoxin administration:
- No marked or alarming reactions. Only five of this group tested prior to toxin-antitoxin administration; none found susceptible to horse protein.

One hundred and fifty thousand children, most of them fully immunized with toxin-antitoxin, have been under the observation of one of us (E. L. B.) for a period of from one to five years through the Department of Public Health of Philadelphia, and none have given any marked reaction to toxin-antitoxin administration or have shown any tendency to protein sensitivity by test six months after the injections.

We are therefore convinced that in the use of the toxin-antitoxin mixture properly made and with the protein removed, according to the methods of Park[1] and of Banzhof, no hypersensitivity to horse protein is developed. Further, we are convinced that it is safe and indeed wise to use toxin-antitoxin in asthmatic patients known to be susceptible to diphtheria. Therefore, to assume that hypersensitivity is developed by toxin-antitoxin, one must first prove that hypersensitivity was not present before the administration of the toxin-antitoxin, since those hypersensitive to horse protein do not react to the infinitesimal amounts of protein in the toxin-antitoxin mixture advocated.

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[15] Bunge, G.: Physiological and Pathological Chemistry, p. 383. Hoobler, B. R.: J. Michigan M. Soc. **23**: 150 (April) 1924.

* From the Department of Public Health.

[1] Park, W. H.: Publications of the New York Department of Public Health, Division of Laboratories, 1924-1925.

[2] Bauer, E. L.: Manual of Diphtheria Prevention, Monthly Bulletin, Department of Public Health, Philadelphia, **9**, no. 7, July, 1924.

The Mesentery in Visceral Disorders.—A great deal of abdominal surgery should be directed toward the protection from injury of so vital a structure as the mesentery, whether by infection or by mechanical trauma.—Gray, T. H.: Rôle of the Mesentery in Visceral Disorders, *Lancet* **1**:381 (Feb. 20) 1926.

IS BACTERIUM ABORTUS PATHOGENIC FOR HUMAN BEINGS? *

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The remarkable discovery made by Evans,[1] that the causative organism of undulant fever in man and that of Bang's abortion disease in cattle were similar if not identical, has brought forth considerable confirmatory evidence in this country and in Europe. These findings have served as a stimulus to observe more closely the possibility of man acquiring a fever from handling or ingesting material containing *Bacterium abortus*. Already many cases of illness in man in which the main symptom was characterized by recurrent fever have been cleared by the proper application of the knowledge that Evans has given us.

Cooledge [2] was probably the first to conduct experiments to determine the possibility of *Bacterium abortus* infecting man. At the time, he had no knowledge as to the relation of *Micrococcus melitensis* to *Bacterium abortus*, or what the nature of the disease would be if infection took place. The serologic tests were made use of in this work as a criterion of infection. The results were negative, with the exception of an occasional partial reaction which was possibly due to the absorption of agglutinins present in the milk ingested. The negative results obtained in this experiment were probably due to the small number of organisms in the naturally infected milk and to the lack of virulence of the culture used.

Fleishner, Vecki, Shaw and Meyer [3] have very clearly demonstrated that, in infecting monkeys with *Bacterium abortus*, the number of organisms and their virulence are very important factors to consider.

The case reports of undulant fever made by Keefer,[4] Evans,[5] Bevan,[6] Duncan [7] and others have again raised the question as to the possibility of contracting the disease from cattle infected with *Bacterium abortus*. While the evidence pointing to cow's milk as the source of the infection in these cases is largely circumstantial, it remained for Carpenter [8] to associate closely two cases of undulant fever in man with the ingestion of raw cow's milk containing *Bacterium abortus*.

REPORT OF CASE

During the last year, evidence came to my attention that a former graduate student was possibly affected with undulant fever. He became ill during the winter of 1924, while working in the laboratory with several newly isolated cultures of *Bacterium abortus*. He had never worked with cultures of *M. melitensis*. He suffered from periodic attacks of headache, muscular pains, slight fever, malaise and gastric disturbances during the winter and spring, and became greatly emaciated toward the beginning of the summer. He left the laboratory in June and became associated with the Detroit Medical College. The condition persisted throughout 1924 and until July, 1925. The paroxysms, however, were less severe. He was examined by several competent physicians during this time, but they were unable to arrive at the cause of his condition. In the summer of 1925, he happened to be reading some case reports on undulant fever. The symptoms described compared so closely with his own that he made an agglutination test on his blood, using *Bacterium abortus* as antigen, and found that it reacted in a dilution of 1:400 No blood or urine cultures were made at the time Cultures of the blood and urine were taken in October, 1925, with negative results At this time the agglutination test was positive in a dilution of 1:50 to both *Bacterium abortus* and *M melitensis* His condition was much improved in August, 1925, and continues so at this time.

Oct 24, 1925, another case came to our attention. This young man was also a graduate student in our laboratory, and had been working for more than a year with cultures of organisms isolated from the pregnant bovine uterus. Among these were three or four cultures of *Bacterium abortus*. He was away from the laboratory during three months of the summer of 1925, returning in September. October 24, he became suddenly ill, with muscular pains, pains in the back of the neck and the sacro-iliac region, malaise, headache, fever, chills, high pulse, a slight cough and hoarseness. During the next four days, the temperature was normal in the morning and gradually rose during the afternoon. On the 29th, he felt normal; on the 31st, a second paroxysm occurred, the temperature at this time rising to 104 F. His condition was again normal, November 5, except for marked prostration. The degree of prostration is gradually increasing, and the process of alternating recrudescence and defervescence is continuing. From the beginning he has had a painful spleen, gastric disturbances, weak eyesight, and alternating constipation and diarrhea

A physical examination by Dr O. H. Bruegel of East Lansing, Jan. 5, 1926, seven days after a paroxysm, showed moist and clear skin except for a few small, reddish spots scattered over the chest and abdomen, some of which were slightly scaly, unlike rose spots. The tongue was heavily coated and whitish The tonsils had been removed The glands of the neck were not palpable The thyroid was normal. There was good expansion in both lungs, which were normal, except for an occasional râle. The apex beat of the heart could be neither seen nor felt. The heart was possibly slightly enlarged to the right; the sounds were not clear and seemed slightly muffled. There was a second pulmonic impulse but it was not doubled The pulse was 80, with low tension The systolic blood pressure was 104; diastolic, 70 The abdomen was not distended; there was some tenderness below the costal margin on both sides and in the regions of the gallbladder and spleen The liver could not be felt. The spleen was easily palpable, extending one fingerbreadth below the costal margin on inspiration. The right lower quadrant was normal.

The first blood and urine culture made, Nov. 11, 1925, was negative The blood serum at this time agglutinated both *Bacterium abortus* and *M melitensis* in a dilution of 1:1,000 A blood culture, November 23, showed an organism indistinguishable from *Bacterium abortus*. The urine culture was negative A blood culture, December 8, was also positive. The agglutination titer of the blood serum at this time had risen to 1:2,000. The same titer persists at the present writing.

The source from which the infection was acquired in this case has been a matter of no little speculation. It is obvious that three sources may be considered; namely, the handling of laboratory cultures, and the ingestion of raw cow's milk or goat's milk in which the infective organism was present.

Since this man had worked with cultures of *Bacterium abortus* in the laboratory, the probability of accidental infection cannot be altogether excluded.

The question of infection from goat's milk may be excluded, as there is none sold in this community

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* From the Bacteriological Section, Michigan Agricultural Experiment Station, Michigan State College

[1] Evans, Alice C: Further Studies on Bacterium Abortus and Related Bacteria, J. Infect Dis **22:** 580 (June) 1918

[2] Cooledge, L H.: Is Bacterium Abortus Pathogenic for Human Beings? J. M. Res. **34:** 459 (July) 1916

[3] Fleischner, E. C; Vecki, M.; Shaw, E B, and Meyer, K F: The Pathogenicity of B Abortus and B Melitensis for Monkeys Studies on the Genus Brucella Nov. Gen III, J Infect. Dis **29:** 663 (Dec) 1921.

[4] Keefer, C S: Report of a Case of Malta Fever Originating in Baltimore, Md, Bull Johns Hopkins Hosp **35:** 6 (Jan) 1924.

[5] Evans, Alice C: Malta Fever: Cattle Suggested as a Possible Source of Infection, Following a Serological Study of Human Serums, Pub Health Rep **39:** 501 (March 14) 1924

[6] Bevan, E W.: Infectious Abortion in Cattle and Its Possible Relation to Human Health, Tr. Roy. Soc. Trop. Med & Hyg **15:** 215, 1921.

[7] Duncan, J. C.: The Role of the Domestic Cow in the Epidemiology of Undulant Fever, Tr. Roy. Soc. Trop Med & Hyg **18:** 318 (Nov-Dec) 1924

[8] Carpenter, C M: Notes on the Bacteriology of Two Cases of Undulant Fever in Man, Twenty Seventh Annual Meeting, Society of American Bacteriologists, 1925.

In considering the question of cow's milk, it was found that this man had been drinking raw milk obtained from a small dairy. A sample of milk was obtained from a bottle on the milk wagon of the owner and examined culturally for *Bacterium abortus* by a previously described method.[9] A large number of colonies of *Bacterium abortus* were obtained on each of the several plates made. The presence of *Bacterium abortus* in the milk indicates that the infection may have been acquired from this source, as well as from handling cultures of the organism in the laboratory.

When the symptoms of the case above described became known to the men working in our laboratory, another graduate student, who had been working with both *Bacterium abortus* and *M. melitensis* for more than one year, remarked that he had had similar symptoms, only somewhat milder, two weeks previously. At this time, he complained of an occasional pain in the region of his spleen and his pulse was 90. A blood culture and an agglutination test were made, Nov. 23, 1925. An organism was obtained from the culture which resembled *Bacterium abortus* in every detail. The serum agglutinated both *Bacterium abortus* and *M. melitensis* in a dilution of 1: 200. December 8, the titer of the serum had risen to 1: 400. His condition still appears good, except the painful spleen and a feeling of slight prostration. According to previous clinical studies, the case would be classified as the ambulatory type of disease.

This man was well aware of the virulence of the cultures of *M. melitensis* with which he was working, and consequently had used considerable care in avoiding infection.

An inquiry was made as to the source of the milk he had been drinking, and it was found that it came from the same source as that consumed by the patient with the previously described, typical form of the disease.

Until the disease appears in persons who have not been working with the organism, the naming of the origin of the infection in these cases must be held in reserve.

The point in question, however, is clear; that is, *Bacterium abortus* of bovine origin was undoubtedly the etiologic factor concerned in the manifestation of symptoms similar to those of undulant fever in two of these cases, and *M. melitensis* may have been responsible for the manifestation of a mild form of the disease in the third case.

Yet, an agglutinin absorption test performed on the blood serums in the third case as well as the second case placed the causative organism in the group of *Bacterium abortus* mainly of bovine origin.

The technic described by Ficai and Alessandrini[10] for differentiating between *Bacterium abortus* and *M. melitensis* infection has been employed on the serum in these two cases with varying results. From the results obtained in this test, the typical case is due to *Bacterium abortus* and the atypical to *M. melitensis*. It is not certain that this test can be relied on, as the heating of many bovine serums at 56 C. for thirty minutes will destroy agglutination for *Bacterium abortus*.

There is another factor which may serve to indicate which organism is responsible for the disease, and that is the atmospheric requirements for the primary growth of the organism. It is well known that *M. melitensis* will grow aerobically on primary cultivation and that *Bacterium abortus* requires carbon dioxide for its initial growth. The two organisms isolated in these cases would not grow aerobically in cultures made from the blood, but grew readily when placed in an atmosphere containing 10 per cent of carbon dioxide.

In a further consideration of the source of infection the thought has occurred that, if infective raw milk was the source of infection, why are there not more cases of this disease observed in the United States? Two probable answers are offered. First, it is rare to find *Bacterium abortus* present in the milk from the udders of all cows in a herd. When it is found, the number is rarely larger than 500 per cubic centimeter of milk. At the drying up period, it is found in millions per cubic centimeter of milk from the infected udder. Should such milk find its way into the raw milk supply for human consumption, it is likely that *Bacterium abortus* will be found present in large numbers. In other words, there would be a sufficient quantity of organisms present to make the milk a source of infection and dangerous for human consumption. The second factor to be considered is that there may have been and may now be many cases of this disease which have not been diagnosed or are not severe enough to have come to the attention of practicing physicians.

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[9] Huddleson, I. F.: The Isolation of Bacterium Abortus from Milk, Part IV, Tech. Bull. 49, Mich. Agric. Exper. Sta., 1920.

[10] Ficai, G., and Alessandrini, A.: Malta Fever and Bang's Bacillus Abortus, Riforma med. **41:** 57 (Jan.) 1925.

ANILINE SHOE DYE POISONING

REPORT OF THREE CASES

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MILWAUKEE

Muehlberger,[1] in 1925, reported a series of ten cases of shoe dye poisoning, bringing the present total of all cases reported in medical literature up to fifty-eight. He entered exhaustively into an analysis of this subject, quoting all the published data. The additional and particular merit of his analysis, however, lies in the fact that, whereas the cases previously reported in the United States were due to nitrobenzene poisoning, of the ten recorded by him six were due to aniline, these being the first to be reported in this country. To the six I now add three that recently came under my observation.

REPORT OF CASES

Case 1.—A girl, aged 14, who left her home at noon in good health, two hours later suddenly developed severe frontal headache and became cyanotic. This was followed by slight nausea and drowsiness. When seen at the hospital in the evening, she was still deeply cyanotic and was suffering from headache and slight nausea. She was mentally alert, there was no shortness of breath or heart palpitation, there was no fever, and the pulse was normal in rate and rhythm. The heart tones were pure at all valve areas, no edema of the extremities could be seen. Respiration was normal in character, and the lung and blood examinations proved negative. The urine contained a trace of albumin. On the following morning the patient had entirely recovered. It was ascertained that she had put on freshly dyed black shoes at noon, two hours before the symptoms developed. Twenty-four hours later, the shoes still had an unpleasant aniline odor.

The dye in this case was made locally, the label states that it is odorless (which it is not), and cautions against the use of the dyed shoes in less than twenty-four hours after treatment. This warning is at the bottom of the label and is too small to strike the eye of the user.

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[1] Muehlberger, C. W.: Shoe Dye Poisoning, J. A. M. A. **84:** 1987 (June 27) 1925.

Cases 2 and 3.—September 13, several weeks after the first patient was seen, two brothers, aged 11 and 13, were brought to the hospital. Their symptoms and the clinical course of their disease were so nearly identical that a single report will suffice. Canvas slippers were dyed while on the feet, the dye being a substance that had been in the cellar about ten years. Soon after, the boys complained of a "pins and needles" sensation and numbness of the feet; two hours later they felt dizzy and weak, had a ringing in the ears, and fell in a stupor. They remained in a confused state about one hour. At this period they were admitted to the hospital: vomiting had set in; they were confused, unresponsive and dull; the skin and buccal membranes were deeply cyanosed; respirations were rapid; the lungs were clear; the pupils were widely dilated and the heart rate 120 and 125, respectively; the action was rhythmic, the tones clear and the pulse of good volume. The temperature rose to 99.4 and 99.8, respectively. The feet were discolored with dye. After several hours, the symptoms began to subside, and on the following morning all the evidences of poisoning had disappeared. The urinalysis was negative in both patients; blood examination made on the day following admission showed: a red count of 4,470,000 and 4,590,000; hemoglobin, 83 and 81 per cent, and a leukocyte count of 11,200 and 17,870, respectively, with a normal differential.

The dye used in these cases was in a container without a label. It had an aniline odor, and was analyzed for me by a local chemist, Dr. J. Gubelmann, who reported that it contained 36.58 per cent of an amino-compound, which had definitely been identified as aniline.

As outlined in Muehlberger's analysis, shoe dye poisoning may result from brown or black dye, and may be due either to nitrobenzene or to aniline being used as a solvent. European accounts indicate that aniline is as freely used as a solvent as is nitrobenzene, and the reported cases of poisoning are about equally divided between the two toxic products.

It may be interesting to note that in connection with certain commercialized products other than those mentioned, poisoning has not been unknown. Thus, I am informed that cases of aniline poisoning (with cyanosis as the principal symptom) are not infrequently encountered in a large local chemical plant where aniline dyes are manufactured.

Another product, benzene,[2] has produced markedly toxic symptoms, but of a different character. Thus, Selling[3] reports a number of cases of benzene poisoning in persons employed in the manufacture of tin cans. The solder used was made of rubber dissolved in commercial benzene. A number of similar cases was reported by Santesson[4] of Stockholm, in 1897, as occurring in bicycle tire workers, benzene having been used as a solvent for the rubber.

The symptoms in the benzene cases reported by Selling and Santesson were different in type from those due to aniline and nitrobenzene; whereas the latter were acute, rarely fatal (two out of fifty-seven patients died) and were characterized by cyanosis, the former were in many instances fatal, but essentially chronic, becoming acute only in the end, and were characterized by purpura, anemia and leukopenia. Experiments definitely proved that nitrobenzene was not the toxic agent in these cases, but that benzene was the actual poisonous distillate.

Since seeing the three patients reported above, I have interviewed a number of shoe repairers. All showed me the dye they use, most of them employing the brand used in case 1. A few knew the danger and were emphatic in stating that they have lost customers because of their refusal to deliver shoes in less than two or three days after dyeing; others knew nothing of the hazard, and were not sufficiently impressed with the unstarred warning on the original container to employ or to give the necessary caution. Thus, it is evident that it is not generally known that the danger of absorption is greatly lessened the longer the interval between dyeing and wearing; that this interval should be several days, although one may suffice, and that particularly when shoes are dyed while being worn is there great danger of speedy absorption.

The local shoe dye manufacturer, I have reason to believe, has commercialized his product on a very large scale, thus greatly multiplying the potentiality for disaster from this source.

The total number, now sixty-one, of reported poisonings does not, of course, represent all the actual cases. Several reports of aniline cases have come to me since I called attention to these three. In many, doubtless, the symptoms are of lesser import—perhaps only nausea, headache and dizziness, and subside as the toxic agent is dissipated from the shoes by evaporation; but as long as these dyes are being manufactured, the hazard will continue. The remedy may be found in either prohibiting their use entirely, or, if this is not done, in the employment of a label carrying a danger sign that cannot be overlooked. If the manufacturer and dyer are held to strict accountability, shoe dye poisonings will—as they should—cease.

141 Wisconsin Street.

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[2] The term "benzol" is an unscientific synonym for benzene; this is a coal tar product and must be distinguished from benzine, a petroleum derivative.

[3] Selling: Bull. Johns Hopkins Hosp., February, 1910.

[4] Santesson: Arch. f. Hyg. **21**: 336, 1897.

EFFECT OF MENTAL AND EMOTIONAL STATES ON THE LEUKOCYTE COUNT

I. PRELIMINARY REPORT *

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AND
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It is known that mental and emotional states may produce changes in pulse rate, blood pressure, respiratory rate and pupillary reactions, but no attempt has ever been made to study and record leukocytic changes, as far as we have been able to determine from a careful survey of the literature. It has been noted by some that increased leukocyte counts may be found following epileptic attacks and hysterical seizures, but we are not aware that accurate studies have been made in these conditions.

It has been our purpose in these experiments to determine the effects of mental and emotional states on the number and types of leukocytes in the peripheral blood of animals and man. With this end in view, we used dogs in our first series of experiments. Our methods of inducing alterations in the emotional states of the animals consisted of such procedures as placing a cat or a rat in a cage within plain view of the dog under experiment and securely fastened, and then applying various external stimuli.

Realizing the impossibility of determining accurately the exact mental state of the animals, we used such objective methods as obtaining the pulse rate and respiratory rate and the bodily response of the animal. The pulse rate and leukocyte counts were taken several times at intervals of a few minutes while the dog was apparently calm, and control counts were made, before the apparent induced change in the animal and again every few minutes thereafter.

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In ten dogs, an increase of from 30 to 150 per cent in the number of leukocytes was observed under the conditions detailed above.

Our second series consisted of experiments on thirteen patients at the Cook County Hospital presenting noninfected surgical cases, including uncomplicated hernias, varicoceles, hydroceles and hemorrhoids. These experiments were based on our belief that the anticipation of an operation in the immediate future would be sufficient to induce some alteration in the mental and emotional states of most patients. Control counts were taken at frequent intervals during the second or third days preceding the operation. The final count was taken immediately before the operation, with the patient on the operating table. In these cases we were able to ascertain the subjective states of the patients. In seven of the thirteen cases, there was definite evidence of fear and apprehension, while the remaining six patients appeared to be indifferent. The former showed an increase of from 12 to 100 per cent in the number of leukocytes, while in the latter there was little or no change.

The differential counts both in dogs and in man revealed a relative increase in the polymorphonuclear forms.

The exact mechanism of this peripheral leukocytosis is not quite clear, but the work of E. F. Müller[1] and his associates would tend to show that there is in some way a complex reaction of the involuntary nervous system.

The results obtained in our experiments might also be explained on the basis of the preponderance of leukocytes which adhere to the walls of the blood vessels in the splanchnic region under normal conditions. Walter B. Cannon[2] has shown that, during mental and emotional states, there is a constriction of the blood vessels, especially in the splanchnic region; which would have a tendency to liberate the leukocytes from the endothelium of the blood vessels into the peripheral general circulation. This might account for a greater number of leukocytes in the peripheral vessels in which our counts were made. We have not yet attempted to demonstrate the mechanism of this interesting reaction. Its practical import lies in the fact that this phenomenon may have to be considered as a not infrequent cause of leukocytosis, especially in operative cases, and may be confused with infective or other types of leukocytic change.

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[1] Müller, E. F., and Myers, C. N.: The Effect on the Involuntary Nervous System of Arsenicals and the Salvarsan Group, Proc. Soc. Exper. Biol. & Med. **21**: 474-477, 1924. Müller, E. F.; Rosen, I., and Myers, C. N.: Relation of Silver Arsphenamine to the Involuntary Nervous System and to the So-Called Nitritoid Crisis, Arch. Dermat. & Syph. **10**: 607-616 (Nov.) 1924. Muller, E. F., and Myers, C. N.: Biochemical Studies on the Behavior of the Leukocytes After Intravenous Administration of Alkalinized Salvarsan, Proc. Soc. Exper. Biol. & Med. **22**: 95-98, 1924. Müller, E. F.: The Involuntary Nervous System: An Important Factor in the Body's Resistance, Arch. Int. Med. **35**: 796-806 (June) 1925.

[2] Cannon, W. B.: Bodily Changes in Pain, Hunger, Fear and Rage, New York, D. Appleton & Co., 1915.

Use of Dyes in Therapeutics.—A conservative attitude of mind toward all matters dealing with life and death must lead us to insist on a study of a far larger number of tests than we now have at hand in the cases of all of these dyes used as germicides and antiseptics.—Stieglitz, Julius: Chemistry and Recent Progress in Medicine.

Clinical Notes, Suggestions, and New Instruments

SPUTUM EXAMINATION IN SO-CALLED CLOSED TUBERCULOSIS *

EMERY SZUCS, M.D., REISTERSTOWN, MD.

Among others, we classify tuberculous patients as open and closed cases, based on the presence or absence of expectoration. Our recent observations made on two patients of the Mount Pleasant Sanatorium make it appear doubtful whether this classification based on apparent absence of expectoration is justified. In having done so, we failed to recognize that apparently closed cases may be in fact open cases and a source of infection.

We succeeded in demonstrating the presence of tubercle bacilli in the spray of two of our recently admitted patients in the absence of any expectoration. There was an extensive tuberculous involvement present in both of our cases, of acute and subacute character, respectively. The patients were advised to report immediately the slightest amount of expectoration and though our observation covered from four to eight weeks, we were unable to obtain a sputum specimen for examination.

We used the following simple technic: A cotton plug wrapped round a throat applicator was introduced as far as the epiglottis, and the patient was ordered to cough. From this almost invisible material, a smear was made, and in both of our cases the presence of tubercle bacilli could be demonstrated with the Ziehl-Neelsen method. In our second case, repeated use of this technic was necessary to establish a positive diagnosis.

Our observation may imply that no tuberculosis patient can be safely considered a closed case unless repeated examinations are made of spray materials as heretofore outlined, because it is assumed that there is no sputum obtained otherwise.

This technic may also be helpful—as it was in our cases—to aid in making a definite diagnosis in such doubtful cases, in which, in the absence of expectoration, our other diagnostic means fail to give definite evidence of pulmonary tuberculosis.

A brief summary is given of the two cases in which we demonstrated tubercle bacilli by the technic described.

REPORT OF CASES

CASE 1.—A girl, aged 17, had had a "chronic cold" for the last two months and a sudden rise of temperature to 104 F. one week prior to admission. The temperature was of the remittent type and continued for three weeks after admission. Her physicians diagnosed the case as grippal pneumonia. Examination revealed dulness over the entire front and in back to the sixth vertebral spine, with suppressed breathing. Subcrepitant and squeaky râles were heard throughout the entire left side. Pectoriloquy was not increased. The roentgen ray showed uniform haziness of the entire left lung. The white blood cells numbered 5,400, and the differential count showed a slight relative leukocytosis. Although the patient suffered at times with paroxysmal coughing spells and is still coughing throughout the day, she was never able to raise any sputum. Two weeks after admission, our cotton plug method was applied with the result that tubercle bacilli could be demonstrated.

CASE 2.—A girl, aged 14, the picture of health, well developed and well nourished, who did not cough or expectorate, and felt perfectly well, for six weeks prior to admission was under observation in a Baltimore hospital, with the diagnosis of unresolved pneumonia. The patient coughed occasionally prior to admission, but never expectorated. She had a slight elevation of temperature the first two days after admission; since then she has been afebrile. Examination revealed consolidation of the left upper lobe with tubular breathing, impaired percussions note and bronchovesicular breathing over other parts of the left lung. There was also some involvement of the right upper lobe. The roentgen ray showed soft, spotty infiltration of the left apex and upper lobe, with haziness of the remainder of the left lung, which left the impression that this haziness was due to unresolved pneumonia. The white blood cells numbered 13,600, with a normal differential count. When no sputum could be obtained otherwise, our cotton plug method was applied, and after the third trial we were able to find tubercle bacilli.

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* From the Mount Pleasant Sanatorium.

It may be noted that, when applying the plug, it is not necessary to aggravate the cough by irritation but by merely requesting the patient to cough while the plug is held.

POSTPARTUM ECLAMPSIA FOLLOWING THE DELIVERY OF SINGLE OVUM TRIPLETS*

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De Lee says that multiple pregnancy is distinctly abnormal and that it has been stated by an observer who studied more than 50,000,000 births that while twins occur only once in eighty-seven cases, triplets occur only once in 7,103 births. He further says that plural pregnancy always gives rise to disturbances on the part of both mother and child. On the part of the mother, nausea and vomiting, toxemia, varices and edema are more marked, while nephritis and eclampsia are much more common than in single pregnancy. He adds, "About 70 per cent of duplex pregnancies terminate before term, and practically all triplet and quadruplet gestations do so."

The fatality of the disturbances of pregnancy in plural gestations is increased, especially of the toxemia resulting in eclampsia.

Triplets and quadruplets offer a much higher percentage in mortality than twins, as regards the prognosis of the child.

REPORT OF CASE

History.—Mrs. J. A., aged 36, who was six months pregnant, consulted us, July 5, 1920, complaining of edema of the extremities, palpitation and dyspnea. Her maternal great-uncle was the father of male twins. Otherwise, there was no family history of multiple pregnancies. Her general health had always been good. She had had six pregnancies, five of which resulted in normal full term deliveries, and one, the fifth, miscarried at six weeks. Following the first gestation, in 1904, she noted an enlargement of the thyroid gland. Following each subsequent pregnancy, this gland had become larger. The first day of her last menstrual period was Dec. 14, 1919. In June, 1920, the patient noticed that her abdomen was unusually large; that she was very nervous; that she had palpitation and dyspnea on slight exertion, and that there was marked edema of legs, feet and hands. She had consulted no physician prior to this time.

Physical Examination.—There was marked anasarca; the pulse was 110; respiration, 26, and temperature, 98.6 F. The systolic blood pressure was 170; diastolic, 110; the height was 63 inches (160 cm.), and the weight, 112 pounds (51 Kg.). The thyroid gland, especially the left lobe, was markedly enlarged. There was no exophthalmos, no lagophthalmos or other thyropathic signs. The heart was enlarged 2 cm. to the right. A soft systolic murmur could be heard over the mitral area. The abdomen was markedly distended. A fetal head in the left occipito-anterior position could be outlined. The internal and external pelvic measurements were normal. There was a small rosette of external hemorrhoids. Pitting edema over the extremities and pelvic girdle could be demonstrated. The blood examination, except for a white blood cell count of 10,400, was quite normal. The urine showed a specific gravity of 1.034; albumin, 4 plus; indican, 2 plus; many fine and coarse granular casts; a few hyaline casts; many pus cells, and a few red cells.

Treatment and Course.—The patient was kept at absolute rest in bed, was digitalized and given magnesium sulphate, 1 ounce (30 Gm.), every morning. Her diet was soft, salt free and of low protein.

The patient remained at rest for fourteen days. The edema was lessened; the pulse became slower and of better volume; the blood pressure remained fairly constant at 160/100, and the dyspnea was less marked.

While it was considered advisable to keep the patient in bed for a much longer period, economic conditions had to be considered, so an attempt was made to permit her to get up and later to assume some household duties. As was to be expected, all former symptoms of decompensation reappeared, together with the alarming high blood pressure of 200, systolic; 130, diastolic. Again following a short stay in bed, there was some improvement in the patient's general condition. During the eighth month of her pregnancy, she began to complain of extreme nervousness and continuous cardiac palpitation. Her abdomen had become so swollen and heavy that very slight exertion caused marked dyspnea. A loud mitral systolic murmur could be heard.

This precarious condition continued until active labor ensued at about 11 p. m., October 3. At midnight, the cervix was fully dilated. The protruding membranes were ruptured artificially and were followed by a virtual deluge of amniotic fluid. The first baby, a girl weighing 4 pounds 7 ounces (2 Kg.) presented in the left occipito-anterior position, and was delivered at 12:13 a. m. The second baby, a girl weighing 5 pounds 9 ounces (2.5 Kg.), presented both feet and was delivered at 12:40 a. m. The third, also a girl, weighing 6 pounds (2.7 Kg.), presented in the left occipito-anterior position and was delivered at 12:55 a. m. The third stage of labor lasted ten minutes, the placenta being delivered spontaneously and intact. The secundinae showed three amniotic sacs and one large placenta, off of which came three umbilical cords.

After delivery 1 dram (4 Gm.) of ergot was given by mouth. The hemorrhage was slight, and the uterus contracted well.

Nine hours following delivery, the patient complained of severe frontal headaches. About one hour later, she had convulsions lasting fifteen minutes and followed by loss of consciousness. At this time the pulse rate was 96; respiration, 24; the systolic blood pressure, 180; diastolic, 110. The urine was loaded with hyaline and granular casts. The breath was uremic in odor. Following the removal of 100 cc. of blood, 300 cc. of 3 per cent glucose solution was given intravenously. Continuous hypodermoclysis with physiologic sodium chloride solution was begun, together with rectal injections of 10 per cent glucose, 150 cc., and 2 per cent sodium bicarbonate, 150 cc., every four hours.

The following morning the patient had regained consciousness, but complained of being unable to see. She had one convulsion, October 5, which lasted about five minutes, but was not followed by unconsciousness. Following this, she made rapid improvement. After two days she was able to see, but for about seven days there was considerable visionary disturbance, principally the complaint of large black spots before the eyes. The heart murmur persisted, although the edema, dyspnea and palpitation rapidly disappeared. On the fourteenth day postpartum, the patient was allowed out of bed. Convalescence was normal and two weeks after delivery her weight was 98 pounds (44.5 Kg.). Three months following delivery, her weight had increased to 127 pounds (57.6 Kg.). The pulse, blood pressure, temperature and respiration were practically normal and the urinalysis was negative.

The triplets progressed satisfactorily until November 27, when Virginia, the third born, developed a respiratory infection and died.

In November, 1921, the patient again became pregnant and in August, 1922, gave birth to a girl weighing 8 pounds (3.6 Kg.). Both the prenatal and the postnatal history of the latter pregnancy were uneventful.

Since that time we have seen the patient for various minor complaints. Her last visit to our office, Nov. 20, 1925, aside from a greatly enlarged thyroid and a blood pressure of 132/88, showed a woman enjoying unusually good health.

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* Read before the Louisville Obstetrical Society, Nov. 27, 1925.

COMMENT

In common with most instances of multiple pregnancy, our patient suffered from edema and toxemia, together with the not infrequent complications, nephritis and eclampsia.

This report differs from similar reports, as follows:

1. Our patient was able to continue her pregnancy practically until full term. She recuperated rapidly from her postpartum condition and, eighteen months later, gave birth to a normal child. The prenatal and the postnatal history of the latter pregnancy were uneventful.

2. The pregnancy was apparently a una-ovular one, as evidenced by the single placenta.

3. The triplets were unusually large, but quite normal. Two of the children are now living. One died of pneumonia after having lived nearly two months.

Francis Building.

Special Articles

TYPHOID IN THE LARGE CITIES OF THE UNITED STATES IN 1925

FOURTEENTH ANNUAL REPORT

The Journal presents its fourteenth annual survey [1] of typhoid fever mortality in the seventy-seven cities of the United States that had more than 100,000 population in 1925.[2] As in the thirteenth report, the cities have been grouped according to the recognized geographic divisions of the U. S. Census Bureau. Since 1920, eight cities have been added to the list of cities with more than 100,000 population (El Paso, Lynn, Duluth, Utica, San Diego, Canton, Flint, Tulsa) and these appear for the first time in our tables.

Table 1.—*Death Rates of Cities in New England States from Typhoid per Hundred Thousand Population*

	1925	1924	1921-1925	1916-1920	1911-1915	1906-1910
Lowell	0.0	1.7	2.4	5.2	10.2	13.9
New Bedford	0.8	4.5	1.7	6.0	15 0	16.1
Lynn	1.0	2.7	1.6	3.9	7.2	14.1
Springfield	1.4	1.3	2.0	4.4	17.6	....
Fall River	1.5	0.0	2.3	8.5	13.4	13.5
Cambridge	1.7	4.5	4.3	2.5	4.0	9.8
New Haven	1.7	5.1	4.4	6.8	18.2	30.8
Hartford	1.9	0.0	2.5	6.0	15.0	19.0
Worcester	2.1	0.5	2.3	3.5	5.0	11.8
Bridgeport	2.8*	3.5	2.2	4.8	5.0	10.3
Providence	3.4	2.5	1.8	3.8	8.7	21.5
Boston	3.5	2.1	2.2	2.5	9.0	16.0

* Rate calculated on figures for population in 1922.

The cities of the New England group (table 1) again make a very favorable showing. All but four of the New England cities achieve a place on the Honor Roll (rates less than 2.0 per hundred thousand), and one city (Lowell, Mass.) has the distinction of remaining free from any typhoid death. The full five-year comparison (1921-1925) which this year becomes available renders possible a more satisfactory appraisal of the actual typhoid situation in communities like these New England cities, where the yearly typhoid deaths are now so few. In such a comparison it appears that in every city in this group but one the average annual rate was lower for 1921-1925 than for any preceding five-year period. In 1916-1920, seven of the New England cities had rates above 4.0; in 1921-1925, only two cities were above this figure. The five-year averages show particular improvement in New Bedford and Fall River. New Bedford carries off the palm for the lowest quinquennial average ever reached in this group, with Providence a close second. The single exception to this almost unbroken record of improvement is Cambridge, which maintained a very low rate in 1916-1920 (2.5), but had an exceptionally bad year (10.8) in 1921, thus bringing up its average for the quinquennium in 1921-1925. In 1925, perhaps the most noteworthy change is that in Boston, which for the second successive year shows a typhoid increase, and for the first time in years stands at the foot of the New England cities. New Haven reports the lowest rate in its history, and Lynn, the newcomer in the list, makes a remarkably fine showing.

Table 2.—*Death Rates of Cities in Middle Atlantic States from Typhoid per Hundred Thousand Population*

	1925	1924	1921-1925	1916-1920	1911-1915	1906-1910
Scranton	0.0	2.8	2.4	3.8	9.3	31.5
Newark	0.9	2.7	2.3	3.3	6.8	14.6
Reading	0.9	5.4	6.0	10.0	31.9	42.0
Yonkers	1.8	2.7	1.7	4.8	5.0	10.3
[illegible]	1.9	1.2	2.1	2.9	9.6	12.8
[illegible]	2.1	3.6	3.3	4.1	9.1	19.3
Syracuse	2.2	1.6	2.3	7.7	12.3	15.6
Philadelphia	2.3	2.2	2.2	4.9	11.2	41.7
Pittsburgh	3.2	3.9	3.9	7.7	15.9	65.0
New York	3.3*	3.1	2.6	3.2	8.0	13.5
Trenton	2.8	0.8	8.2	8.6	22.3	....
Utica	3.9	....	....	....	....	....
Jersey City	4.1	2.6	2.7	4.5	7.2	12.6
Buffalo	4.5	2.8	3.9	8.1	15.4	22.8
Albany	5.9	12.6	5.6	8.0	18.6	17.4
Camden	7.0	6.3	5.9	4.9	4.5	....

* Rate calculated on figures for population in 1924 with same annual increment added as in 1922-1923 and 1923-1924.

In the Middle Atlantic States (table 2) we find the only other American city (Scranton) besides Lowell reporting no typhoid deaths for 1925. From the quinquennial comparison it appears that fourteen of the fifteen cities in this group had a lower average in 1921-1925 than in 1916-1920. The single exception (Camden) evidently has a typhoid situation that needs examination. While typhoid rates all over the United States have been falling, the five-year average in Camden has steadily increased from 4.5 in 1911-1915 and 4.9 in 1916-1920, to 5.9 in 1921-1925. Moreover, the rates for 1924 (6.3) and 1925 (7.0) are higher than the 1921-1925 average. There must be some local reason for this constant upward trend. Compared with 1924, seven cities in this group had a lower rate in 1925, eight a higher. The increase in New York and perhaps in some other localities may doubtless be attributed in part to the oyster-borne infection, which swelled the list of typhoid deaths toward the end of 1924 and carried over into the first quarter of 1925. Typhoid deaths in New York, for example, numbered sixty-

Table 3.—*Death Rates of Cities in South Atlantic States from Typhoid per Hundred Thousand Population*

	1925	1924	1921-1925	1916-1920	1911-1915	1906-1910
Norfolk, Va.	1.5*	2.9	2.8	....	....	....
Wilmington	3.3	8.3	4.7	....	....	....
[illegible]	3.6	2.8	4.0	11.8	23.7	35.1
[illegible]	5.0	4.3	5.4	9.5	17.2	36.7
[illegible]	5.4	7.6†	5.7	9.7	15.7	34.0
[illegible]	18.4‡	15.0	14.5	14.2	31.4	58.4

* Rate calculated on figures for population in 1924 with same annual increment added as in 1922-1923 and 1923-1924.

† Erroneously given as 1.1 in typhoid survey for 1924.

‡ Rate calculated on population figures furnished by the health department.

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[1] The preceding articles were published, May 31, 1913, p. 1702; May 9, 1914, p. 1473; April 15, 1915, p. 1322; April 22, 1916, p. 1305; March 17, 1917, p. 845; March 16, 1918, p. 777; April 5, 1919, p. 997; March 6, 1920, p. 672; March 26, 1921, p. 860; March 25, 1922, p. 890; March 10, 1923, p. 691; Feb. 2, 1924, p. 389, and March 14, 1925, p. 813.

[2] The deaths from typhoid in each city are those reported to us by the respective health departments. The rates have been calculated on the basis of midyear 1925 population, estimated by the method of the U. S. Census Bureau, save that in several instances in which no census estimate is available other estimates are used. These are duly noted in the tables.

seven in the first quarter of 1925, as compared with eighteen in the corresponding quarter of 1924. The increased number of cases due to contaminated oysters unquestionably led to an increase in the number of carriers and also to an increase in contact cases.

The four cities in the South Atlantic states (table 3) for which a comparison of five-year averages is possible showed a marked improvement in three instances (Baltimore, Washington, Richmond) and a practically stationary condition in the other (Atlanta). Atlanta, like the other Southern cities, faces a difficult situation; but is it really any worse than that of Birmingham, which in 1916-1920 had a typhoid average twice as high as that of Atlanta, but in 1921-1925 one that was considerably lower?

Table 4.—*Death Rates of Cities in East North Central States from Typhoid per Hundred Thousand Population*

	1925	1924	1921-1925	1916-1920	1911-1915	1906-1910
Canton	0.9	....	....	....	....	....
Grand Rapids	1.3	3.4	1.9	9.1	25.5	29.7
Milwaukee	1.4	1.0	1.6	6.5	13.6	27.0
Chicago	1.5	1.6	1.4	2.4	8.2	15.8
Cleveland	1.5	1.2	2.0	4.0	10.0	15.7
Flint	1.5	....	....	....	....	....
Dayton	1.7	2.4	3.3	9.3	14.8	22.5
Akron	1.9*	1.0	2.4	....	....	....
Youngstown	2.5	4.5	7.2	....	....	....
Detroit	2.7	3.0	4.1	8.1	15.4	22.8
Indianapolis	3.6	3.9	4.6	10.3	20.5	30.4
Cincinnati	4.2	2.5	3.2	3.4	7.8	30.1
Columbus	4.3	3.7	3.5	7.1	15.8	40.0
Toledo	6.3	4.4	5.8	10.6	31.4	37.5

* Rate calculated on figures for population in 1924.

The cities in the East North Central states (table 4) have a perfectly clear record, every one of the ten cities for which data are available showing a lower average for 1921-1925 than for 1916-1920. The reduction in Grand Rapids is particularly noteworthy. Chicago holds the lowest typhoid record for the last five-year period. In this group six cities had lower rates in 1925 than in 1924, and six higher. The two newcomers in the list, Canton and Flint, start out with very low rates.

Table 5.—*Death Rates of Cities in East South Central States from Typhoid per Hundred Thousand Population*

	1925	1924	1921-1925	1916-1920	1911-1915	1906-1910
Louisville	5.8	1.9	4.9	9.7	19.7	52.7
Birmingham	9.2	7.5	10.8	31.5	....	....
Nashville	19.8	20.4	17.8	20.7	40.2	61.2
Memphis	28.6	41.2	20.3	27.7	42.5	35.3

The four cities in the East South Central states (table 5) all stand better in 1921-1925 than in 1916-1920, Louisville and Birmingham showing marked improvement. That Memphis still has a milk problem on its hands is shown by a recent study of the milk supply published by the superintendent of health in 1925. Grading of the milk was found impracticable, and was abandoned in 1923 in favor of published milk scores. Pasteurization is not required; in 1924 about half of the supply (49.7 per cent) was pasteurized. The experience of other communities indicates that pasteurization of a larger proportion of the milk supply would be followed by a further reduction in typhoid.

In the cities of the West North Central states (table 6), none of which in recent years have suffered from excessive typhoid, comparison of the quinquennial averages reveals an almost unbroken improvement, only St. Paul showing a slight increase. With one exception, the 1925 rates in this group were higher than those for 1924. Duluth starts out with the very low rate of 0.9.

Table 6.—*Death Rates of Cities in West North Central States from Typhoid per Hundred Thousand Population*

	1925	1924	1921-1925	1916-1920	1911-1915	1906 1910
Duluth	0.9	...	....	....	....	....
Kansas City, Mo	1.9	3.6	5.7	10.6	16.2	35.6
Omaha	1.9	1.0	3.3	5.7	14.9	40.7
St. Paul	2.8	2.0	3.4	3.1	9.2	12.8
Minneapolis	3.3	2.1	1.9	5.0	10.6	32.1
St. Louis	3.9	3.7	3.9	6.5	12.1	14.7
Des Moines	4.7*	2.8	2.2	....	....	....
Kansas City, Kan.	7.7	4.6	5.0	9.4	....	....

* Rate calculated on figures for population in 1924 with same annual increment added as in 1922-1923 and 1923-1924.

The cities of the Southwest (table 7) show uniform improvement in the five-year averages so far as data are available. The 1925 rates in Fort Worth, Dallas and New Orleans are considerably higher than those for 1924. El Paso has responded to our request by sending in complete figures for all the years since 1911, the only one besides Lynn of the cities reporting for the first time to render this service. The proportional reduction in typhoid in El Paso is great and the 1925 figures highly encouraging.

Table 7.—*Death Rates of Cities in West South Central States from Typhoid per Hundred Thousand Population*

	1925	1924	1921-1925	1916-1920	1911-1915	1906-1910
El Paso	3.8	11.0	10.8	30.7	42.8	....
Fort Worth	5.2	1.7	6.1	....	....	....
Houston	5.5	5.6	7.6	....	....	....
San Antonio	8.6	5.8	9.3	23.3	29.5	....
Dallas	17.5	8.2	11.2	17.2	....	....
New Orleans	19.8	10.0	11.6	17.5	20.9	35.6
Tulsa	20.9	....	....	....	....	....

All the cities in the Mountain and Pacific states (table 8) had less typhoid in 1925 than in 1924, contrary to what was observed in other geographic divisions. The decrease was especially notable in Los Angeles and in Portland. All the five-year averages with one exception (Tacoma) also show a reduction.

Table 8.—*Death Rates of Cities in Mountain and Pacific States from Typhoid per Hundred Thousand Population*

	1925	1924	1921-1925	1916-1920	1911-1915	1906-1910
San Diego	0.9	....	....	....	....	....
Oakland	1.2	1.3	2.0	3.8	8.7	21.5
	1.3*	4.4	3.0	3.6	10.7	19.0
	1.8	1.9	4.4	4.9	17.1	50.3
Tacoma	1.9	3.9	3.7	2.9	10.4	19.0
Portland, Ore.	2.1†	6.1	3.5	4.5	10.8	23.2
San Francisco	2.2	2.6	2.8	4.6	13.6	27.3
Seattle	2.5‡	3.2	2.6	2.9	5.7	25.2
Denver	5.0	5.1	5.1	5.8	12.0	37.5
Salt Lake City	6.9	10.1	6.0	9.3	13.2	....

* Rate calculated on population figures furnished by the health department.

† Dec. 1, 1924 – Nov. 30, 1925.

‡ Rate calculated on figures for population in 1924 with same annual increment added as in 1922-1923 and 1923-1924.

The Honor Roll (cities with from 0.0 to 2.0 deaths per hundred thousand) this year numbers thirty (five reporting for the first time), as against eighteen on the list for 1924. There are still six cities in the third rank (rates above 10), Dallas and Tulsa taking the places that Albany and Salt Lake City had last year.

TABLE 9—*Death Rates from Typhoid in 1925*

Honor Roll (from 0 0 to 2 0 Deaths per Hundred Thousand)			
Lowell	0 0	Cleveland	1 5
Scranton	0 0	Fall River	1 5
New Bedford	0 8	Flint	1 5
Canton	0 9	Norfolk, Va	1 5
Duluth	0 9	Cambridge	1 7
Newark	0 9	Dayton	1 7
Reading, Pa	0 9	New Haven	1 7
San Diego	0 9	Spokane	1 8
Lynn	1 0	Yonkers	1 8
Oakland	1 2	Akron	1 9
Los Angeles	1 3	Hartford	1 9
Grand Rapids	1 3	Kansas City, Mo	1 9
Milwaukee	1 4	Omaha	1 9
Springfield, Mass	1 4	Rochester	1 9
Chicago	1 5	Tacoma	1 9
First Rank (from 2 0 to 5 0)			
Paterson	2 1	Wilmington	3 3
Portland, Ore	2 1	Providence	3 4
Worcester	2 1	Boston	3 5
San Francisco	2 2	Baltimore	3 6
Syracuse	2 2	Indianapolis	3 6
Philadelphia	2 3	El Paso	3 8
Seattle	2 5	Trenton	3 8
Youngstown	2 5	St Louis	3 9
Detroit	2 7	Utica	3 9
Bridgeport	2 8	Jersey City	4 1
St Paul	2 8	Cincinnati	4 2
Pittsburgh	3 2	Columbus	4 3
Minneapolis	3 3	Buffalo	4 5
New York	3 3	Des Moines	4 7
Second Rank (from 5 0 to 10 0)			
Denver	5 0	Toledo	6 3
Washington	5 0	Salt Lake City	6 9
Fort Worth	5 2	Camden	7 0
Richmond	5 4	Kansas City, Kan	7 7
Houston	5 5	San Antonio	8 6
Louisville	5 8	Birmingham	9 2
Albany	5 9		
Third Rank (from 10 0 to 30 0)			
Dallas	17 5	New Orleans	19 8
Atlanta	18 4	Tulsa	20 9
Nashville	19 8	Memphis	28 0

The total average typhoid death rate for fifty-nine cities (table 10) is the highest reported since 1921. Early in 1925, case reports from various localities indicated that the disease was prevailing excessively. In Connecticut the state department of health stated that for the first four months there was more typhoid than for any similar period in the last three years A notable excess in the number of cases reported throughout the United States for the first six months of 1925 was remarked on in *Public Health Reports,* July 17. In some places relatively high typhoid prevalence occurred later in the year. The Maryland state department of health received reports of 197 cases in August, 1925, as compared with 156 in August, 1924. The Ohio state department of health noted an increase of 35 per cent in the cases reported in August, 1925, over the number reported in August, 1924. It is evident that 1925 was a "typhoid year."

TABLE 10—*Total Average Typhoid Death Rate (1910-1925)*

	Total Population (59 Cities)* Estimated by the U S Census Bureau Methods	Typhoid Deaths	Typhoid Death Rate per 100 000
1910	21,125,340	4,143	19 61
1911	21,679,886	3 416	15 71
1912	22,234 865	2 800	12 59
1913	22,788 282	2 923	12 82
1914	23,342,199	2,443	10 46
1915	23 896,616	2 094	8 76
1916	24,368 470	1,874	7 69
1917	24,908 055	1,684	6 76
1918	25,142,605	1,583	6 30
1919	25,702,711	1,006	3 91
1920	26 340,793	934	3 54
1921	26,749 616	992	3 71
1922	27,133 857	862	3 18
1923	27,566 727	866	3 14
1924	28,174,489	870	3 09
1925	28,882,031	993	3 43

* Eighteen cities are omitted from this summary because data for the full period are not available

A new table has been compiled for this summary to show the difference in typhoid mortality in the large cities of the several geographic divisions (table 11) The greater prevalence of typhoid in the southern part of the United States as contrasted with the northern stands out conspicuously in this grouping, the East South Central, West South Central and South Atlantic cities averaging much higher than the rest of the country. Since the largest cities, i. e., those with populations greater than 500,000, are mainly in the Northern states, it is plain that the grouping of cities according to size without respect to geographic location might well lead to mistaken conclusions as to the connection of size with typhoid mortality.

TABLE 11—*Typhoid Death Rates in the Various Geographic Divisions in 1925**

Cities of More Than 100,000 Population in	Population	Typhoid Deaths	Rate
New England states	2,308,266	56	2 42
Middle Atlantic states	11,279,063	333	2.95
South Atlantic states	1,354,748	110	8 12
East North Central states	7,344 968	163	2 22
East South Central states	570,012	92	16 14
West North Central states	2 072,228	64	3 09
West South Central states	717,491	103	14 36
Mountain and Pacific states	3,235,255	72	2 22

* The same cities as in table 10

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

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(*Continued from page 842*)

Oil in Capsules.—Oily or resinous liquids, when given in rather small doses (up to 0 5 cc.), may be conveniently dispensed in hard gelatin capsules. If the dose is only 1 or 2 drops, or if the agent is very irritant, it should be dissolved in a little of some bland oil, such as expressed oil of almond. As examples of medicine best given in this form may be mentioned oleoresin of aspidium, which is used as an anthelmintic against tapeworm in a dosage of from 6 to 8 cc. This dose is best divided into twelve or sixteen capsules, one or two of which are taken every ten minutes, until all are consumed. As another example might be mentioned oil of santal, 0 3 cc., prescribed for subacute urethritis, one or two capsules three times a day after meals.

Soft gelatin capsules, generally ovoid, have the advantage over the hard capsules of being more easily swallowed That is why larger quantities of oily liquids can be administered in this way. The size of 2 5 cc. should not be exceeded as a general rule Larger sizes are made, but to prescribe them is to invite trouble. To swallow such a large capsule easily, it is well to soften it by dipping for a few moments in water just before putting the capsule into the mouth. Then the capsule is swallowed with another draft of water.

Elastic gelatin capsules are generally not made by the pharmacist but bought by him ready-made from the manufacturer. It is generally considered, though not with good reason, that they are too troublesome to prepare extemporaneously. It is therefore necessary to be acquainted with the various kinds of filled capsules put out by manufacturers and kept in stock by pharmacists. Among these are elastic capsules of castor oil, 2.5 cc.; elastic capsules of copaiba, 0.6 cc., and elastic capsules of oil of santal, 0.3 and 0.6 cc. Manufacturers put up a great many others.

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* This is the thirteenth of a series of articles on "The Technic of Medication" When completed the articles will be assembled in book form

If one is not certain whether the pharmacist has a certain kind of elastic capsules in stock, it is best to leave out the word "elastic" and to permit him to dispense hard extemporaneously filled capsules if he does not have the other variety. However, when a physician has occasion to use a certain oily substance or combination frequently, it is well to see to it that the pharmacist carry it in stock in the form of elastic capsules, as they are not only more easily swallowed but also more elegant. There is a liability of leakage from the hard capsules filled by druggists which, of course, would defeat the purpose of administration in this form.

Cachets.—Starch capsules, also known as cachets, wafers of konseals, are two little disks of dried paste, resembling in shape little soup plates, made to enclose powder placed in the hollow of the two by moistening their edges and pressing them together, so that the edges adhere. They were invented by Limousin of Paris, about 1870. Previous to this time wafers were used to facilitate the swallowing of powders by moistening a circular wafer sheet, placing the powder in the center, and folding over the edges so as to form "a sort of oyster," which can be swallowed easily by floating it in a spoon with a little water. Now, however, we usually have the pharmacist put on the little wrapper.

By means of these starch capsules, we are enabled to give larger quantities of powders at one dose than we can by means of gelatin capsules. Cachets will hold from 0.5 to 1 Gm. of powder.

Starch capsules are probably best prescribed at present by the name cachets, so that, if we were to prescribe charcoal for gastric flatulence, we might order 0.5 and not more than 1 Gm. of it to be sealed into a cachet, one to be used as needed after meals.

Just before use, cachets are dipped in a tablespoonful of water; and, when the entire surface has been thoroughly moistened and softened, which takes only a few moments, the spoon is placed far back on the tongue, and the whole swallowed at one gulp. These directions should be given to patients explicitly, for it has happened that cachets have been opened or chewed by patients unacquainted with this mode of medication, in either case, of course, defeating the object of this method of administration.

Enteric Capsules.—Enteric capsules are desirable when it is necessary to protect the stomach against the medicament, or the medicine against the action of the gastric juice. In spite of a considerable amount of experimentation on the subject, the problem of enteric encapsulation has not yet been solved satisfactorily.[34] The reason for this lies not only in certain chemical and mechanical difficulties presently to be discussed, but also in the fact that the laws of osmosis conspire against successful enteric encapsulation. Enteric capsules are nothing more or less than semipermeable membranes; and, even if their solubility is such as to make them resist solution in the stomach and yet permit them to disintegrate in the intestine, diffusion into or out of the capsule may occur if a soluble substance is contained in them. If the capsule is permeable to the substance, it may diffuse into the surrounding fluid. If the capsule is impermeable to the substance contained in it but the substance is soluble, then water may diffuse through the capsule, causing the contents to swell and perchance burst in the stomach. This has been shown by Sahli[35] to be the objection to keratin coating, and it probably also holds good for other similar films.

Coating with phenyl salicylate, which is obtained by rolling the pill mass in melted phenyl salicylate, has the objection that the thickness of the coating is difficult of control, and that too thin a coat may permit disintegration in the stomach, while excessive thickness of the coat may resist disintegration in the intestine, so that the pills may pass through the alimentary tract unchanged.

A moderately successful attempt at the production of enteric capsules is by making use of the influence of formaldehyde on gelatin, introduced by Sahli under the name "glutoid capsules." By this means a compound is formed that has varying degrees of insolubility in the gastric and intestinal juices chiefly according to the relative proportions of the agents and the age of the product. According to the method described by Scoville,[36] the filled capsules are immersed for thirty seconds in 1 per cent aqueous solution of formaldehyde at ordinary temperature, drained quickly, dried, and stored for two weeks before using. The disadvantage of this process lies in the peculiarity inherent in colloids whereby they change in solubility under the influence of age. It has been shown that, by keeping these capsules for a much longer time, they may become insoluble in the intestine. This method is applicable only to filled capsules: empty capsules cannot well be hardened by this process, as they are liable to undergo distortion so that they cannot be properly closed.

There is a fair prospect that the interest aroused by cholecystography after peroral administration of tetraiodophenolphthalein will definitely solve the problem of enteric encapsulation by bringing to bear on it the aid of the roentgen rays. This dye, the value of which for the visualization of the gallbladder is now well established, has thus far had to be given intravenously to obtain reliable results. When given by mouth, it is liable to cause vomiting, which of course vitiates the result. The effect of the gastric acid on the agent is also objectionable. Stewart[37] has obtained satisfactory results in cholecystography by coating gelatin capsules with keratin just before use. The tetraiodophenolphthalein, being rather unstable when exposed to air, is best obtained in an ampule containing the required dose (3 Gm.). This is opened just before use and packed into ordinary gelatin capsules, which are then dipped into a solution of keratin, 7 parts; diluted alcohol, 50 parts, and ammonia water, 50 parts. The capsules are then placed on a screen to dry and are usually ready for use within five or ten minutes. Coating of gelatin capsules with stearic acid might possibly do away with the necessity of preparation just before use.

A moderately satisfactory substitute for these coatings is enclosing the pill mass in a double gelatin capsule, one within the other. In addition, the previviously discussed castor oil-wax excipient, suggested by N. S. Davis, might be used, thereby minimizing the dissolving of the agent in the stomach and securing chiefly enteric action.

(To be continued)

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[34] Du Mez, A. G.: J. Am. Pharm. A., May, 1921, p. 372.

[35] Sahli: Ueber Glutoidkapseln, Deutsche med. Wchnschr. **23**: 6 (Jan. 1) 1897.

[36] Scoville, Wilbur: South. Pharm. J., 1915, p. 745.

[37] Stewart, W. H.: Personal communication to the author.

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SATURDAY, MARCH 27, 1926

CRITICAL CONSIDERATIONS OF EDEMA

Edema has long presented one of the perplexing problems of pathology. It may appear when there is embarrassment of the peripheral circulation resulting from heart failure. It is observed in those forms of chronic parenchymatous nephritis to which the name nephrosis has been applied since 1905, when it was introduced by Friedrich Müller. The symptoms are frequently observed in acute glomerular nephritis. The specialist has likewise recognized the appearance of edema under far less definite conditions. Soda edema may follow extreme alkali therapy in diabetic acidosis; nutritional edema attends dietary restrictions and was particularly conspicuous in the central empires during the World War as war dropsy. Localized edema occurs at the site of inflammations; after some forms of intoxications, edema may arise either locally or generally; and in angioneurotic edema the possibility of a perversion of the nervous control of blood volume regulation is brought into consideration. With such a diversity of aspects before us, it is not difficult to appreciate McLean's[1] contention that the fundamental problem is that of the physiologic regulation of the volume of the internal environment, including the blood and the tissue fluids. It appears, as McLean states, that edema is not an entity in itself, due always to the same underlying causes, but rather a symptom just as dyspnea, which may result from various disturbances of the regulatory process. Progress in our understanding of edema is therefore likely to be promoted only as the varied possibilities are approached independently and their genetic aspects separately disentangled. Part of the work of understanding will consist in rationally discarding untenable hypotheses or, at any rate, restricting them to the special aspects of disease, to which alone they may properly apply.

In the older conception of edema the condition was pictured as an excessive accumulation of lymph, modified or unmodified, in the cells, intercellular spaces, or serous cavities of the body. As Wells[2] has remarked, there would be no difficulty in understanding the disorder as the result of simple passive congestion of the lymphatic circulation. No chemical factors are involved. Widal[3] aroused a new interest in the subject through the demonstration of the influence of chlorides on the behavior of fluid in the body, particularly under pathologic conditions. The organism responds to increased ingestion of such salts by increase in volume, and markedly so in persons with a tendency to edema. Reduction of edema through a salt-free regimen is based on this phenomenon. McLean has pointed out, however, that the results of giving potassium chloride are quite different from those provoked by the sodium salt, and it is likely that the prevalent opinions concerning the rôle of chlorides in edema would not have been so firmly established had the quantitative determination of sodium and potassium been as simply carried out as is that of the chlorides. In a renewed study of the excretion of chlorides, de Wesselow[4] of St. Thomas's Hospital, London, has observed that in interstitial nephritis without edema the chloride concentration power of the kidneys runs parallel with the failure of capacity to concentrate urea. In nephritic patients with edema, on the other hand, two groups of results seem to occur. In one of these the plasma content in chloride is low, while the edema fluid is rich in chlorides; and in these patients the edema appears to be of extrarenal origin. In the other group the chloride concentration frequently is good; it is suggested that in such patients defective water excretion is the underlying cause of the edema. De Wesselow regards it doubtful whether true dissociation of the concentrating capacity of the kidneys for urea and chloride occurs. On his somewhat speculative assumptions, chloride retention would cease to be an all-important factor in the production of edema, but chloride distribution in the body would play a large part in determining the distribution of water between blood and tissue fluids. This is in partial contradiction to Widal's belief that the edema of the nephritic patient is the result of a primary chloride retention due to the renal defect, the water retention being a secondary but necessary consequence if the chloride content of the body fluids is to be kept within a range compatible with life.

Nothing has been stated here of other much discussed possible influences that may affect the normal distribution of fluid in the body. Changes that are colloidochemical in nature must not be overlooked. The lowered surface tension in the blood serum emphasized by Clausen in nephrosis with edema is a significant finding. The peculiarities of the disappearance of intradermally injected salt solutions in edematous patients present a unique problem.[5] Study of the questions at issue has been hampered by the difficulty of reproducing edema in any adequate manner in experimental animals. There is at best little satisfaction to be derived from the outlook of the recent reviewer[1] who points to the clinic as offering the best prospect of success. He remarks that the physicochemical method, which has been so fruitful in the past, may be expected gradually to disclose as yet hidden mechanisms. The more general approach from the standpoint of the organism as a whole, with an attempt to solve the nature of the regulatory process, to discover the unknown "influences" and the manner of their control, offers a tempting field for investigators. Meanwhile, he concludes, the more and more detailed observation of patients with edema, the search for and correlation of deviations from the normal, may bring to light new phenomena, each being the starting point for further investigation. By a combination of the three methods, in all of their various ramifications, may one hope for solution of the problem and control of the condition of edema.

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[1] McLean, F. C.: Edema as a Problem in Physiological Regulation, Physiol. Rev. **5**: 618 (Oct.) 1925.

[2] Wells, H. G.: Chemical Pathology, Philadelphia, W. B. Saunders Company, 1925.

[3] Widal, F., and Lemierre, A.: Pathogénie de certains oedèmes brightiques: action du chlorure de sodium ingéré, Bull. et mém. Soc. méd. d. hôp. de Paris **20**: 785, 1903.

[4] De Wesselow, O. L. V.: The Excretion of Chlorides by the Healthy and Diseased Kidney, Quart. J. Med. **19**: 53 (Oct.) 1925.

ENDEMIC GOITER: THE LESSON FROM NEW ZEALAND

Few months have passed of late without contributing new evidences sustaining the hypothesis that endemic goiter is caused by a deficiency of iodine in the diet. Europe and America, far apart though they are, different in manifold features of geology and geography, often unlike in racial characteristics, and varying in the modes of living, have nevertheless given comparable answers to the question of the incidence of goiter and the preferable means of prophylaxis. The long held belief that the malady is characteristic of mountainous countries has been completely dispelled; one need merely cite the experience of our Great Lakes region in this connection. It does not follow, either, that goiter is to be found to an unusual extent where limestone is abundant. It is generally assumed, however, that proximity to the sea insures against goiter, owing to the wafting inland of ocean spray that includes not only chloride but also some iodide. The most conspicuous goiter regions of Europe and America are in the interior of the continents, whereas the coastal districts enjoy a comparative immunity.

The two chief islands of the dominion of New Zealand comprise a territory within which every inhabited locality is not more than a hundred miles from the sea. One might well expect immunity from goiter in such a country. Yet the elaborate study of Hercus, Benson and Carter[6] of the University of Otago, New Zealand, has disclosed a widespread prevalence of the disorder. Thirty-one per cent of the school children are affected; in some areas, 60 per cent of them show some degree of thyroid enlargement. The native Maoris, comprising about one third of the total population, are by no means immune. For many generations their native language has included the word "tenga," meaning goiter.

An explanation of this unexpected finding has arisen out of the Otago investigations. Topographically, New Zealand is most varied. There is a remarkable range of geographic conditions. The study shows that, roughly, the incidence of goiter is in general inversely proportional to the amount of iodine in the soil, which determines the inclusion of the element in the plant and animal food consumed by the population of a given district. Where exceptions to this occur, it has been noted that the required iodine seems to be supplied by the drinking water rather than in foods. Among coastal Maori tribes where fish and edible seaweed bulked largely in the dietary, goiter was not known, though it occurred among the inland tribes long prior to European occupation.

The record of a supposedly immune island country such as New Zealand is a lesson in the importance of concerted attack on a preventable disease. Out of 135,282 male recruits between the ages of 20 and 45 examined by military medical boards during the period 1916-1918, when conscription was in operation, 1,581 were declared unfit for active service on account of thyroid enlargement. This is not primarily the result of "civilization," for goiter has been found not uncommon in horses, sheep, cattle, dogs and trout bred in New Zealand. It is not racial, for two races with differing habits live there side by side. If it is true that endemic goiter is "the stepping stone to cretinism" and the beginning of other forms of thyroidal pathogenesis, the importance of effective preventive measures requires no argument. The story of New Zealand should serve to strengthen our own prophylactic purposes and programs.

PHYSICAL APTITUDES

There is a growing tendency in this country to consider health one of the foremost objectives of education, taking its place with, or perhaps even surmounting, the consideration of mental development and social progress. It is not easy to define the end sought. To consider health in terms of mere freedom from disease falls far short of the ideals of the educational ambitions of the present day. A more adequate and satisfying definition of health pictures it as "the quality of life that renders the individual fit to live most and to serve best."[1]

Physical competence plays an important part in the sort of health fitness that is here portrayed. Inevitably there is a demand for some mode of measurement that is applicable to educational schemes, so that the degree of attainment can be evaluated. This is true in the routine of school work where mental tests of one sort or another form part of the regimen. It is likewise expected nowadays with respect to the physical fitness of the adolescent. If it is true that the ideal method of testing intellectual achievement is not yet in sight, what shall be said regarding examinations in the field of physical competence?

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[5] McClure, W. B., and Aldrich, C. A.: Time Required for Disappearance of Intradermally Injected Salt Solution, J. A. M. A. **81**: 293 (July 28) 1923.

[6] Hercus, C. E.; Benson, W. N., and Carter, C. L.: Endemic Goiter in New Zealand and Its Relation to the Soil-Iodine, J. Hyg. **24**: 321 (Dec.) 1925.

[1] Williams, J. F.: Personal Hygiene Applied, Philadelphia, W. B. Saunders Company, 1925, p. 20.

Strength and endurance determined in combat or competitive sport are far from satisfactory measures of promising physique. A group of physiologists[2] at Guy's Hospital in London have properly pointed out that physical fitness is relative and does not necessarily mean good physique; the efficient performance of work involves the interaction of all the systems of the body. Their argument that the condition is so complex and the power of adjustment so great that no single measurement can be an infallible guide scarcely needs further emphasis. The British writers remind us that one man may be physically efficient for a definite piece of work under certain conditions, such as temperature and moisture of the air, which would not suit another equally healthy man. There is an individuality in all men, each having an optimum of speed and environment.

The difficulties in the way of attempting to bring about uniformity are seen in the actual tests made on students in London. Of the familiar procedures, vital capacity proved to be an unreliable index despite the claims of Dreyer and his followers. Efficient respiration, so the criticism reads, is not determined alone by the capacity or mobility of the chest and lungs: the process involves the coordination of pulmonary ventilation with the activity of the heart, the circulation and the oxygen capacity of the blood—factors that cannot be determined by the spirometer. Estimations of pulse pressure, of ability to hold the breath and of related performances have obvious limitations. Comparisons of the pulse rate at rest and after exercise seem to give the best single simple indication of physical fitness. The reasons are, perhaps, not far to seek. The circulatory pump, the heart, must be adjusted to the needs of the body. Its efficacy represents an adaptation of both nervous and muscular control to bodily needs; yet there are persons in whom the heart is far better developed than the skeletal muscles.

The conclusions of Hambly, Pembrey and Warner[2] will provoke thoughtful consideration even if they do not invite approval. To them there appears to be no real test for physical fitness for every and any kind of occupation other than the old method of trial and error. A man in perfect health, they remark, may be fit for one form of muscular work rather than another, and his capacity, which is predetermined by his ancestry and development, can be rendered manifest only by the repeated performance of the work in question. If all of us thus need to be placed "on trial," as happens so commonly to the rank and file of human kind, it will assuredly be helpful to discover an "aptitude test" for physical performance. The psychologists are leading the way toward a similar goal in the field of mental equipment.

Current Comment

"ETHICS AND THE MEDICAL PROFESSION"

A few weeks ago The Journal considered editorially the physician of the future, noting that the practice of medicine is changing with the times. The entrance into medical service of corporations dispensing diagnosis and some treatment on a wholesale basis, and competing, perhaps unfairly, with the individual physician by means of uncontrolled newspaper advertising, has raised a problem that may to some extent menace the actual existence of the individual practitioner. In a consideration of medical ethics in the current issue of the *Survey*, Dr. Richard C. Cabot, himself intensely individualistic, although socially minded in his writings, comes to the support of such mechanized medical practice. It should be remembered that the editorial advisor of the *Survey* in matters of health is Dr. Haven Emerson, whose views as to the socialization of medicine are not entirely unknown to the widely read physician. That part of the code of ethics which concerns contract practice forms the major subject of Dr. Cabot's consideration of one trend in the relationships of medicine to the community. He condemns "lodge practice" unreservedly as being bad both for patient and for physician. He feels, however, that the factory physician, the mine doctor, the director of a union health center, the department store physician, and similar practitioners, while certainly doing contract practice and certainly competing with the private practitioner, do so to the great advantage of the public served. And he is unable to see much difference between such industrial practice and that of the corporations selling periodic physical examinations. Furthermore, Dr. Cabot has convinced himself that organized commercial service is better than that of the private physician. Apparently he is but little concerned with the present status of the individual physician, and perhaps even less concerned with the professional status of the physician of the future. It will, of course, be remembered that he was among the first and most vociferous proponents of group practice, again without any thought of the effects that such a system has on the development of the individual practitioner. While he argues for collective practice and a sort of socialized medicine, the code of ethics governing the medical profession gives him but little pause. Of course, it is "of interest," to use his own words, but after all not nearly so much of a force for ethical advance as intimate contact of medical men with other medical men "better than themselves, where, by osmosis, nobler habits of thought and action seep across from teacher to pupil, from chief to intern, from colleague to colleague without a word spoken on the subject." One is inevitably reminded of certain direct communications with the Deity which from time to time inspired prophets have claimed as their sole prerogative. Nevertheless, when some ninety thousand physicians are concerned, it would not perhaps be wholly wise to rely on the inevitable receipt and comprehension of such telepathic influences.

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[2] Hambly, W. D.; Pembrey, M. S., and Warner, E. C.: The Physical Fitness of Men Assessed by Various Methods, Guy's Hosp. Rep. 75: 388 (Oct.) 1925.

TYPHOID IN 1925

The reason for the substantial and widespread increase in typhoid in the large cities in the United States in 1925, shown in our annual summary (p. 948), is not clear. This is the most considerable proportional increase (10 per cent) since these summaries were undertaken in 1910. The greater prevalence of the disease is not to be attributed clearly to any universally acting cause, since in one geographic division—the Mountain and Pacific states—the 1925 rates are lower than those for 1924 in every city. In the other geographic divisions, thirty-four cities experienced an increase, twenty-seven a decrease. Various factors may conceivably have been at work. There has obviously been a progressive change in the population with respect to antityphoid inoculation. The protective effect afforded by the army inoculations in 1917-1918 may be wearing off, and *pari passu* a new uninoculated generation of young males is reaching the typhoid age. It is difficult to deny some weight to this factor, and while it should be operative in the Mountain and Pacific states as well as elsewhere, other causes making for reduction may have obscured it. It seems to be true that in most of the country 1925, like 1921 and 1913, was a "typhoid year." There does not appear to have been any extensive prevalence of water-borne disease, and barring the oyster infection early in the year no particular multiplication of sources of infection seems to have occurred. It is tempting to relate excessive typhoid prevalence over a wide territory to some general factor such as weather conditions, but it will be necessary to collect more data before this aspect of the problem can be profitably approached. In the meantime, the annual fluctuations brought out in these summaries will suggest to epidemiologists various lines of inquiry.

SMALLPOX IN THE UNITED STATES IN 1925

Smallpox—the word recalls at the same time the horrors of disease and the triumphs of preventive medicine. We are reminded that, before Jenner's utilization of vaccination to guard against smallpox, the malady was causing one tenth of all the deaths of the human race, while nearly twice as many persons were permanently disfigured by its ravages. Indeed, it has been computed that during the eighteenth century 50,000,000 people died of smallpox in Europe.[1] In contrast with this are the striking achievements in prevention resulting through systematic vaccination. Thus, this procedure in the six provinces near Manila, P. I., with a population of more than a million and a former death rate from smallpox exceeding 6,000, has resulted in eliminating all mortality from the disease among the vaccinated.[2] There are today many physicians who have never seen a case of smallpox. Yet, a century after the death of Jenner, to whose memory London erected a monument as a partial expression of its gratitude for his benefactions, the lesson of his life work has not been adequately learned in many quarters. How else shall we account for the persistence of neglect even in the enlightened United States? A recent report of the U. S. Public Health Service[3] contains this significant statement: The total number of cases reported for the states for which comparable figures for eleven months of the three years are now available are as follows: 1923, 21,233 cases; 1924, 43,029 cases; 1925, 31,037 cases. The increase in 1924 over 1923 was 103 per cent, and the decrease in 1925 from 1924 was 28 per cent. The figures for 1925 in these states were 46 per cent higher than those for 1923. This is not the story of a single section; it comprises thirty-eight states, among which the New England group alone can claim reasonable exemption, this year only, from smallpox. The same issue includes in the usual current weekly reports of the prevalence of disease such items as 36 cases in Alabama, 9 in Arkansas, 130 in Florida, 15 in Georgia, 61 in Illinois, 41 in Iowa, 74 in Louisiana, 26 in North Carolina, 51 in Oregon, 17 in South Carolina, 21 in Tennessee, 81 in Texas—incomplete records that point a moral. It is not the negligence of the medical profession, for the physician appreciates in every detail the necessary measures for prevention. The public is at fault: it has become imbued with a feeling of safety against smallpox and has become indifferent to the necessity of never-failing preventive measures. The lessons of vaccination are clear and convincing. How long shall the prevailing lethargy in many quarters continue to endanger the health and comfort of millions?

THE DEFEAT OF THE STREPTOCOCCUS IN MEASLES, ERYSIPELAS AND PUERPERAL SEPSIS

When the announcement was made that Drs. George F. and Gladys Henry Dick had shown that scarlet fever is a disease similar to diphtheria in that the streptococcus elaborates a toxin which is the causative agent, medical philosophers predicted that other investigators would soon reveal similar causative agents for related diseases. It appears likely that these predictions are to be successfully realized within the current year. In this issue of THE JOURNAL appears the report of the investigations in measles by Drs. Ferry and Fisher of Detroit, who have elaborated a skin test for measles with toxin prepared from an organism found in the blood of patients suffering with this disease. This organism appears to be the same as that first described by Tunnicliff. Ferry and Fisher emphasize the fact that their organism is aerobic, whereas, the Tunnicliff organism is also aerobic in cultures of the second generation. Experiments are also being made by other investigators with streptococci associated with erysipelas and puerperal sepsis, and preliminary reports of their work indicate the possibility of similar success. Moreover, other organisms than the streptococcus are now being studied with relation to toxin production, notably the staphylococcus and more recently the tubercle bacillus. If these investigations are confirmed, with the widespread acceptance accorded to the Dick discoveries, it may well be that the present decade will pass into history as the one that saw the streptococcus defeated by medical science.

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[1] Fisher, Irving: Report on National Vitality, Its Wastes and Conservation, bull. 30, Committee of One Hundred on National Health, July, 1909.

[2] Williams, J. F.: Personal Hygiene Applied, ed. 2, Philadelphia, W. B. Saunders Company, 1925.

[3] Smallpox in the United States, 1925, Pub. Health Rep. **41**: 262 (Feb. 12) 1926.

THE MODEL MANUAL OF THE VETERANS' BUREAU MEDICAL SERVICE

The standardization of laboratory procedure is difficult because of individual preferences in technic. The United States Veterans' Bureau has just issued a clinical bulletin [1] which is notable among laboratory manuals in its method of determining standard procedures. The work arose out of the need for a uniform, simple, sensitive Wassermann technic that would eliminate a maximum number of false positive reactions and that could be performed with reasonable accuracy by the average laboratory technician. After prolonged correspondence, a procedure was adopted which, it is claimed, is sensitive, gives few false positives, requires but one antigen and is rapid of execution. The bulletin gives in concise, clear form everything that one who is setting up a Wassermann laboratory needs to know. It contains a list of the apparatus required, tells how to clean this apparatus and how to care for it, and gives directions as to how to obtain specimens and how to prepare reagents. Of especial value are the tabular instructions of how to titrate antigen, perhaps the most puzzling and tedious of the procedures required of a Wassermann technician. An experienced laboratorian will recognize that even omissions are carefully intentional. For instance, the mysteries of the water bath thermostat are not explained. Thus the temptation to meddle with it is partially removed. The standard technic published in bulletin 10 might well be adopted by any laboratory.

COOPERATION BETWEEN MEDICAL ORGANIZATIONS AND THE PUBLIC

Annually, for several years, one issue of the *Wisconsin Medical Journal* has been a lay number,[2] and has been distributed to eight thousand people. Furthermore, many state medical societies have worked out plans for extending the benefits of modern medicine to the public. In Michigan, the Joint Committee on Public Health Education has arranged lectures before parent-teacher associations and high school groups, and has found the public eager to listen and anxious to cooperate.[3] The Kings County Medical Society of Brooklyn has gone even further by voting to admit laymen as associate members of the society.[4] To be sure, the state society must act on this vote before it becomes effective. At all events, the tendency displayed in Wisconsin, in Michigan and in Kings County is a healthful one in every sense of the word. Traditionally, the mystery that has surrounded the dissecting room and the laboratory has excluded the public. For centuries the public did not care. Now it does care. If it cannot understand the whole subject of medicine, it wishes to have explained, clearly, such portions as it can understand. It is one office of medicine to direct public opinion in matters of health along beneficent channels to sound conclusions. Apparently, scientific medicine, in a dignified way, is accepting its opportunity.

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Held in Chicago, Feb. 15, 16, 17 and 18, 1926

(Continued from page 876)

FEDERATION OF STATE MEDICAL BOARDS

FEBRUARY 17—MORNING

Ten Years of Progress

DR. JOHN S. RODMAN, Philadelphia: To the National Board of Medical Examiners this is an important anniversary, as it marks the completion of the first decade of its life. The national board has granted certificates by examination to 740, has registered 2,642, has examined in part I of its now divided examinations 1,723, in part II, 912, has increased its recognition by state medical examining boards from seven to thirty-four in addition to the Canal Zone, Hawaii and Porto Rico, has established reciprocal relations with the Triple Qualification Board of Scotland and the Conjoint Examining Board of England, and has established subsidiary boards in fifteen of the larger medical centers of this country. Candidates for the board's certificate have come from all the seventy class A medical schools in this country, and from the following foreign schools: Beirut, Brussels, Cambridge, Dalhousie, Edinburgh, Hungary, Kazan, Kiel, London, McGill, Manitoba, Melbourne, Moscow, Naples, Odessa, Oxford, Petrograd, Prague, Toronto and Vienna. The ten medical schools that have provided the largest numbers are: Harvard, 385; Pennsylvania, 253; Johns Hopkins, 209; Rush, 176; Woman's, 121; Cornell, 109; Columbus, 91; University of Virginia, 69; Yale, 67; Oregon, 50.

During this decade, certain changes have been made in the teaching of medicine. We believe that much more stress should be placed on the actual knowledge needed to make a good practitioner and much less on the refinements and specialties than has been done in former years. The national board's examinations have been developed so that when a candidate has satisfactorily completed the series, the board will have no hesitation in certifying to the fact that he or she may safely be granted the privilege of practice. Comparisons show a lower trend for the grades given by the national board than those given in the medical schools. Of the changes now taking place in medical education, none has been more important, we believe, than the effort to correlate the fundamental with the clinical branches. The study of anatomy is made, in a few schools, a living thing because it is taught with a direct functional bearing. In physiology and in physiologic chemistry, too great a distance separates these subjects from the clinics. In pathology and bacteriology, it seems that the training of the board's candidates has been more uniform and has been more "clinicalized" than in the former subjects. The proper time to teach the subject of materia medica and pharmacology is not until students have finished the subjects of anatomy, physiology and chemistry, which is done in the first two years, thus placing pharmacology properly in the third. The percentage of failures in part I has been about 22. The percentage of failures in part II has been a little over 11, or half of that in part I. In medicine, surgery, obstetrics and gynecology, the candidates have shown more proficiency in memorizing facts concerning disease in general than in the demonstration of the application of this knowledge on the patient. The board hopes that its candidates will show in the future more understanding of such fundamental things as wound healing, inflammation, fracture and dislocations, and less about brain tumors and thyroid surgery. The board feels that too much time is given to the surgical specialties in the undergraduate years. Taken as a whole, these few years have convinced the national board that medical education in this country is fundamentally sound.

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[1] United States Veterans' Bureau Medical Service Clinical Bulletin no. 10, Standardization of Laboratory Work in Hospitals and Regional Offices—The Wassermann Test, compiled by Philip B. Matz, M.D.

[2] Evans, Edward, in discussion on Graduate Medical Education, abstr. J. A. M. A. **86**: 757 (March 13) 1926.

[3] Sundwall, John: University Extension Work—An Adventure in Public Health Education, abstr. J. A. M. A. **86**: 757 (March 13) 1926.

[4] Medical Society Votes to Admit Laymen, Boston M. & S. J. **194**: 415 (March 4) 1926.

DISCUSSION

DR. H. S. ARNOLD, Boston: Starting with considerable doubt on the part of this organization as to the wisdom and action of a national board, you have loyally helped us. Almost all the members of this organization have recognized the certificate of the national board. There was, I think, some feeling at first that the board might replace the work of the state boards. That is practically out of the question. We have never had any intention of such work. As our aim was to get an examination that ought to be acceptable to all the state boards, we have to take a standard which would be acceptable to the highest state board in the country. Without any criticism of state boards that do not come up to the highest standard, we realize that the conditions in various parts of the country and different states require somewhat different treatment. We do not believe that there should be a federal supervision of requirements for license.

DR. WILLIAM JEPSON, Sioux City, Iowa: If you were to take a hundred papers and examine them, you would generally find about four or five which are the product of superintellectual men, and if you would grade the rest of the papers in accord with those, the rest would all be thrown out. Those men should have an opportunity to subject themselves to a further examination so that they are really qualified, and then they should have the advantage of not being restricted in their practice to one particular state.

DR. T. J. CROWE, Dallas, Texas: I think I was the first objector to the National Board of Medical Examiners. Since that time my eyes have been widely opened. I have been trying as hard as any one could to get acceptance and wrote our bill so that at any time when the personnel of the Texas board changes it will be possible for Texas to accept the diplomates of the national board.

DR. JOHN M. DODSON, Chicago: The history of this movement is to me one of great interest. I was interested in it as long ago as 1906, when I wrote a letter to THE JOURNAL advocating what is substantially today the working plan of the board. One of the most pernicious and ridiculous provisions in our state laws is the exclusion from the business of examining candidates for licensure of the only men in the state who were fit to do it. The business of examining and testing men requires skill and care and training and experience, and men who have had that experience in the medical profession are men who are engaged in the business of medical teaching and examining. It is very gratifying to learn that thirty-four states now accept the certificate of the board. In our peculiar form of government, it is the one and only solution that will make a medical man free from the penalty which so many have experienced of being required on the basis of health or family to move to another state years after beginning practice and find themselves faced by a sort of examination which no man ought to be asked to take at that period after his preliminary study.

DR. JOHN S. RODMAN, Philadelphia: We have gone on the principle from the very first that those best fitted to teach are best fitted to examine.

DR. G. M. WILLIAMSON, Grand Forks, N. D.: The Conjoint Examining Board of England and the Triple Qualification Board of Scotland recognize the board.

DR. JOHN S. RODMAN, Philadelphia: I should have explained the reciprocal relation existing between the Conjoint Examining Board of England and the Triple Qualification Board of Scotland and the National Board. The arrangement is that those two boards of Great Britain accept the candidates of the national board after they have passed and received the diploma of the board into their final or clinical examination, and we do likewise.

Admission of Foreign Medical Graduates to Licensure Examination as Handled by the Michigan Medical Board

DR. GUY L. CONNOR, Detroit: Subsequent to the World War, it became apparent to the Michigan medical board that something would have to be done to curb the influx of undesirable foreign medical applicants. Many of these were not the highly educated physicians who formerly came to us but were as undesirable in their own country as they were here. Certain foreign medical schools have been giving war service as credit for medical school work. In our experience, the German and Austrian schools have been the worst offenders in this respect. We also have received all sorts of fake credentials from some of the foreign institutions. Under the Michigan rule, there are two distinct classes of foreign medical applicants: group 1: those who have graduated from medical schools located in the British Empire, France, Italy, Mexico, Netherlands, Norway, Portugal, Spain, Sweden and Switzerland; group 2: those who have graduated from medical schools located in other foreign countries than those mentioned above. Those in group 1 who have fulfilled the Michigan requirements are allowed to take the board examination. Those in group 2 who have fulfilled the Michigan requirements save for their medical college of graduation have first to complete the additional educational course of one year in a satisfactory manner, and then they have to take the board's examination, the same as group 1.

DISCUSSION

DR. B. U. RICHARDS, Providence, R. I.: We shall have to handle this matter in one of three ways. One is for the men of the examining boards to accept, without question, the diplomas of foreign schools. Another method is for us to secure all evidence possible regarding the institution in question. The third method is the best one, it seems to me: that recommended by Dr. Connor of Michigan, that a year in an American college be required. Yesterday the statement was made by Dr. Judd that graduates from medical colleges abroad receive their diplomas about two years earlier than our American candidates. That being the case, that is one reason why such men ought to be willing to give a year's study in this country.

DR. ALEXANDER MACALISTER, Trenton, N. J.: Foreign applicants in New Jersey are required to file, in addition to our regular application, all their original credentials; i. e., certificates covering preliminary education, course book, certificates and diplomas covering medical education and certificates covering hospital work, together with translations made by the consul general of the country in which the schools, universities and hospitals are located. The number of students from the rural districts is decreasing, and of the students from the cities an increasing proportion are of foreign birth or parentage, with caste traditions from the Old World. The American physician is disappearing along with the family practitioner.

DR. LOUIS B. WILSON, Rochester, Minn.: We have all the time, in the Mayo Foundation, foreign graduate medical students. Some years ago we became of the belief that graduate medical students who are to come in contact with patients certainly should come under the police regulations of the state. We propose for the consideration of the state medical examining boards that some means be included in your rules and regulations whereby the bona fide medical graduate student from a foreign country (make it an *English-speaking country, if you please) might be given some* form of temporary license which should be granted only after the same examination as that required of candidates for license to practice in general, and that that license then be terminated at the end of the man's residence as a graduate student in an accepted university.

Dr. I. D. Metzger, Pittsburgh: In our law this basic principle holds: A man's license is just as valuable as the credentials he files in the department of public instruction. If those credentials are not reliable, his license is not reliable. We have found two candidates who did not know the first thing about medicine, yet they carried with them diplomas, certificates from hospitals, and all the credentials that might appear to be needed. Therefore, he must have credentials from the medical school; he must have a photograph which is identified, signed and sealed by that medical school. Both of these must be viséed by the American consul in the district in which the school is located from which he claims to have graduated. Our law says also that all applicants shall come from schools that have been inspected by a board. Obviously, we cannot inspect these foreign schools. Therefore we say to a man, "You must have American credentials. If you want to enter our state, you must have a year of education in Pennsylvania." We require the intern year regardless of what internship they have had before. After that we require written and practical examinations. The examinations are taken in English. We in the East get a lot of these people. They bring all the influence that they can possibly marshal to bear on our board, but we must be exceedingly careful.

(To be continued)

THE DALLAS SESSION

Diagnostic Clinics at Dallas

A series of diagnostic clinics, similar to those at the last two annual sessions, will be held at Dallas on Monday, April 19. The Local Committee of Arrangements in charge of this important feature of the scientific program has arranged for all necessary clinical material. The clinics will be held in section meeting halls and the detailed schedule will be available for distribution at the Registration Bureau on the opening day of the session.

The general subjects and the names of physicians who have accepted assignments on this program are:

Practice of Medicine—L. F. Barker, Baltimore; Harlow Brooks, New York; Henry A. Christian, Boston.
Surgery—Carl B. Davis, Chicago; Frank H. Lahey, Boston.
Obstetrics—J. O. Polak, Brooklyn.
Ophthalmology—Walter R. Parker, Detroit.
Otolaryngology—George E. Shambaugh, Chicago.
Pediatrics—H. F. Helmholz, Rochester, Minn.
Pathology—C. C. Bass, New Orleans; Francis Carter Wood, New York.
Neurology—L. J. Pollock, Chicago.
Dermatology—Fred Wise, New York.
Urology—Frank Hinman, San Francisco.
Orthopedic Surgery—Philip Kreuscher, Chicago; Arthur Steindler, Iowa City.
Proctology—Jerome M. Lynch, New York.

Extension of Final Limit on Railroad Tickets

The lines of the Southwestern Passenger Association have authorized an extension of final limit of fifteen days with final honoring date, May 12, 1926, on deposit of certificate with joint agent at Dallas and payment of a fee of $1 at time certificate is deposited. Other lines that have authorized similar extension are the Southeastern Passenger Association, the Trans-Continental Passenger Association and the Western Passenger Association. The Central Passenger Association has authorized such extension only from points on the Chesapeake & Ohio and Norfolk & Western railways, east of Cincinnati and Louisville. Only those passenger associations that have made such authorization are mentioned above. It is to be definitely understood that some of the passenger associations have not granted similar extensions.

Teachers of the Diseases of Children

The Association of American Teachers of the Diseases of Children will have its annual luncheon at the Adolphus Hotel in Dallas, Monday, April 19. A meeting of the association will follow this luncheon.

Smoker of Dallas Veterans

Dallas physicians who are veterans of the World War will give a smoker at the Scottish Rite Cathedral at 7 p. m., April 19. An invitation has been extended to General Pershing to attend, and arrangements are being made to have the military band from Fort Sam Houston furnish music for the occasion. Dr. R. L. Van Duzen, 405 Live Oak Street, Dallas, is in charge of arrangements.

Louisville Reunion

The alumni of the Louisville medical schools are planning to hold the largest reunion at Dallas, April 21, ever held in connection with an annual session of the American Medical Association. Dr. Irvin Abell (Louisville Medical College '97), president of the Southern Surgical Association and of the Kentucky State Medical Society, will give an address on "The History and Early Development of Medical Education in Kentucky," illustrated with moving pictures and portraits of Kentucky pioneer physicians. There will be a dinner at the Adolphus Hotel at 7 p. m., followed immediately by the entertainment. Every graduate of the Louisville medical schools is urged to be present and is requested to notify Dr. Charles M. Rosser, president of the Texas committee of Louisville graduates, Medical Arts Building, Dallas, Texas. Tickets will be on sale at the alumni window at registration headquarters.

Special Trains from the East

There will be a special train over the Pennsylvania lines, which will leave New York at 4:50 p. m., April 16, arrive in St. Louis at 5 p. m., April 17, leave St. Louis on the "Sunshine Special" of the Missouri Pacific at 6:45 p. m., April 17, and arrive in Dallas at 1:10 p. m., April 18. A delegation from New England will join the New York party at St. Louis.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Gift of Dr. Musgrave.—The council of the California Medical Association has accepted the gift of Dr. William E. Musgrave of 200 shares of stock of *Better Health* for which Dr. Musgrave paid $20,000 in cash. The council expressed its appreciation of this gift, noting that it exceeds any gift heretofore made to the association.

Annual Report of Medical Examiners.—Six hundred and eighty-four applications for licenses of all classes to practice were filed with the California State Board of Medical Examiners during 1925, and 616 certificates of all kinds were issued by the board, of which 293 were to physicians after a written examination and 264 to physicians presenting qualifications from other states. Illinois again sent to California the largest number of successful applications for reciprocity, and New York the second largest. Only thirty-seven California licentiates obtained reciprocity licenses in other states. Certificates were issued to ten drugless practitioners, ten chiropodists and seventeen midwives, all after a written examination; seventeen licentiates were called before the board for hearings on various charges, ten of them being for violations of the narcotic law. Six licenses were revoked, six were placed on probation and five were pending at the time the report was made. Of the written examinations, the report is said to state that the University of California has not had a failure reported in the last sixteen years.

COLORADO

Anniversary of Laënnec.—About 100 members and guests of the Denver Clinical and Pathological Society commemorated the one hundredth anniversary of the death of Laënnec, February 9, at a dinner at the University Club, Denver. Dr. Gerald B. Webb, Colorado Springs, was the principal speaker. Among the guests were Col. Paul C. Hutton; Lieut. Col. Earl H. Bruns; Major William H. Thearle of the U. S. Army Medical Corps; Dr. George A. Boyd, president-elect of the Colorado State Medical Association; Dr. Maurice H. Rees, dean of the University of Colorado School of Medicine, and Dr. Harry J. Corper of the National Jewish Hospital. Dr. Josiah N. Hall is president of the society.

Clinics at Colorado General Hospital.—The faculty of the University of Colorado School of Medicine, Denver, gave a series of clinics at the Colorado General Hospital, March 23-26, to which personal invitations were extended to every practicing physician in the state. There were clinics in surgery and medicine and in the specialties; also demonstrations in biochemistry, physiology, bacteriology and pharmacology, and clinical pathologic conferences. The program was arranged to afford interest to all groups of practitioners, and to be of practical benefit to those in attendance. Physicians of the state were informed that they are welcome at any time to this institution, which the state provided for teaching purposes.

GEORGIA

Georgia Physician in Hall of Fame.—Having the privilege of memorializing in marble her two most distinguished sons, the state of Georgia will place the statue of Dr. Crawford W. Long in Statuary Hall in the Capitol, Washington, D. C., March 30, at 3 p. m., the eighty-fourth anniversary of Dr. Long's discovery of ether anesthesia. The president of the Long Memorial Association, Frank K. Boland, will preside at the ceremonies, and the daughters of Dr. Long will unveil the statue. Chief Justice Richard B. Russell of the supreme court of Georgia will present the statue to the state, and the governor of Georgia, Clifford Walker, will present the statue to the United States. The speech of acceptance will be made by Senator W. J. Harris of Georgia; Dr. Hugh H. Young of Johns Hopkins University Medical School, Baltimore, will give an address on behalf of the medical profession. Joseph Jacobs, D.Sc., a friend and former employee of Dr. Long, will speak on behalf of the pharmaceutical profession, and Senator George Wharton Pepper of Pennsylvania, on behalf of the University of Pennsylvania, from which Dr. Long graduated in medicine. Responses will be made by Dr. Lamartine G. Hardman, representing the Medical Association of Georgia; by Rebecca Latimer Felton, former U. S. senator from Georgia; by Dr. William Hamilton Long, secretary of the Southern Association of Anesthetists, and by Miss Virginia Gibbes, representing the nursing profession. The Long Memorial Association presented the statue, which was made from Georgia marble by the sculptor, John M. Rhind and carved by James K. Watt. Dr. Long died in 1878 while in attendance on a patient, in whose interest his last words were spoken.

IDAHO

Personal.—Dr. John W. Givens has resigned as medical superintendent of the state asylum at Orofino, which position he has held for more than twenty years.——P. A. Surg. Le Grand B. Byington, U. S. Public Health Service, was directed, February 24, to proceed from Washington, D. C., to Shoshone, and to such other points in Idaho and Montana as may be necessary and return, in connection with an outbreak of Rocky Mountain spotted fever.

CHICAGO

Institute of Medicine of Chicago.—Preceding the March 26 meeting of the institute at the City Club, when Dr. Evarts Graham of St. Louis will speak on "New Developments in Our Knowledge of the Gallbladder," there will be an informal dinner at 6:30; members of the Chicago Surgical Society will be guests of the institute at this meeting. Announcements of future meetings of the institute include two lectures by Sir Arthur Newsholme of London, May 10-11, at the University of Chicago, with which the lectures have been arranged conjointly; Prof. Friederich Mueller of Munich, Germany, in October, 1926; Dr. Francis W. Peabody, Boston, October 29, when the third annual joint meeting with the Society of Internal Medicine will be held, and the seventh Pasteur lecture, November 19, by Donald Van Slyke, New York.

Medical Students Y. M. C. A. Dormitory.—Construction has started on a ten story Y. M. C. A. building to be ereted at Congress and Wood streets, for the exclusive use of professional students attending the medical and dental schools in that locality. The building will be of stone to the third story, and of stone and brick from there to the top. The first floor will house the gymnasium, handball courts and shops. The second floor, club rooms, a cafeteria, offices, lounges, lockers and showers; on the remaining floors will be 365 rooms for students. The building will cost $750,000, of which the students subscribed $50,000, and members of the faculties of various schools, $150,000; it will be completed about December, 1926. The chairman of the committee of management is Dr. Channing W. Barrett. The structure is said to be the first of its type to be erected by the Y. M. C. A.; the design is in harmony with the other buildings in the association's expansion program.

IOWA

Dr. Plass Heads Department of Gynecology.—Dr. Everett Dudley Plass of the Henry Ford Hospital, Detroit, has been appointed head of the department of gynecology and obstetrics at the State University of Iowa College of Medicine, Iowa City, to succeed Dr. Frederick H. Falls, who recently resigned, to accept a similar position with the University of Illinois, Chicago.

Smallpox at Council Bluffs.—There had been 224 cases of smallpox reported at Council Bluffs between Sept. 2, 1925, and March 15, 1926, of which 113 cases were reported in February and twenty-six the first half of March; all have been mild cases with no deaths. Many people are being vaccinated, but the cost to the city of quarantine will exceed many times the cost of a general vaccination program which was advised by the city health officer some time ago.

KANSAS

Health Officer Appointed.—Dr. Shubert D. Henry, formerly of Wichita, Kan., assumed the duties of health officer of Kansas City, March 1, succeeding Dr. Louis B. Gloyne, who resigned to return to private practice, after having served the city as health officer since 1919.

Personal.—George E. Coghill, Ph.D., professor of anatomy, University of Kansas, has been appointed to a newly created chair of comparative anatomy at the Wistar Institute, Philadelphia.——Dr. Edgar M. Sutton, Salina, has been appointed county health officer, to succeed Dr. Samuel T. Blades.——Dr. Enoch C. Wickersham, Independence, has been reappointed county health officer for 1926.

KENTUCKY

Society News.—The Fayette County Medical Society gave a dinner, February 9, in honor of its senior members; Dr. Benjamin F. Van Meter was toastmaster; among the speakers were Dr. Irvin Abell, Louisville, president of the state medical association, Dr. Joseph A. Stucky, Dr. Samuel B. Marks and Judge James D. Denny.

Personal.—At a meeting of the new board of health of Henderson, March 4, Dr. George F. Jones was elected president and Dr. James U. Ridley, city health officer; among the other members of the board are Dr. William V. Neel and Dr. Jesse O. Strother.——Dr. John C. Morrison, who succeeded Dr. James M. Hubbard of Paducah last summer as head of the public health work in the city, has resigned.——Dr. Daniel H. Kash of Jackson has taken up his duties as physician to a coal camp at Blue Diamond.

Physical Defects of Freshmen.—An examination of 837 freshmen by the department of hygiene and public health at the University of Kentucky, Lexington, recently, disclosed, it is reported, that none of them were free from physical defects. Among 512 males, there were defects of the nose and throat in 445, and of vision in 236 among 325 women students examined, 271 had defects of the nose and throat, and 202 defects of vision. Only sixty male students had defective feet; while 101 women students had defective feet, none of them had skin defects; sixteen of the men students had skin defects; forty-two women and sixty-one men had some form of heart disease; only 274 out of the total of 837 had been vaccinated against smallpox within the last five years.

MARYLAND

Influenza Program.—The Baltimore City Medical Society devoted its entire program, March 5, to a discussion of influenza and pneumonia in view of an epidemic of those diseases in Baltimore; among the speakers were Drs. Dean Lewis, Wade H. Frost, Louis P. Hamburger and George W. Mitchell.

Personal.—Of the seven members of the 1876 class of the University of Maryland Medical School, five were present at a reunion to celebrate the fiftieth anniversary of their graduation, February 27, at the Hotel Rennert. Those in attendance were Drs. Wilmer Brinton, Thomas C. Worthington, William E. Wiegand and William H. Marsh, all of Baltimore, and Dr. James F. H. Gorsuch of Fork, Md. Those unable to be present were Dr. Samuel J. Belt, Baltimore, now 82 years of age, and Dr. David W. Smouse, who lives in Des Moines.——Dr. Joseph Goldberger, U. S. Public Health Service, gave an address at the School of Hygiene and Public Health, Johns Hopkins University, Baltimore, March 1, on "Present Status of Our Knowledge of the Etiology of Pellagra."——Dr. John Whitridge Williams, professor of obstetrics, Johns Hopkins University School of Medicine, Baltimore, presided at a meeting of a group of physicians, January 22, which was addressed by Dr. James F. Cooper, of the American Birth Control League, New York, on "Birth Control."——Dr. Daniel S. Fisher has been appointed coroner for the Western district of Baltimore, to succeed Dr. Harry K. Gorsuch, resigned.——Dr. Bernard Philip Herzog has been appointed medical examiner to the board of pension trustees of Baltimore; the other members of the medical staff are Dr. Frank S. Hundley and Dr. Andrew Kunkowski.

MICHIGAN

Society News.—Dr. John K. Ormond of the Henry Ford Hospital, Detroit, addressed the Lenawee County Medical Society, Tecumseh, February 4, on "Diseases of the Kidney, Ureter and Bladder," illustrated with lantern slides.——Dr. John B. Youmans, Ann Arbor, addressed the Calhoun County Medical Society, recently, on "Some Practical Applications of Our Newer Knowledge of the Liver."——Dr. Reuben Peterson of the University of Michigan Medical School addressed the Hillsdale County Medical Society, recently, on "Abnormal Obstetrics."——Dr. Josiah J. Moore, Chicago, addressed the St. Clair County Medical Society, February 4, on "Gallbladder Visualization," illustrated by lantern slides.

Resolution About Laymen Being Health Officers.—The Ingham County Medical Society, Lansing, has adopted a resolution disapproving the address of a member of the American Public Health Association at St. Louis, Oct. 7, 1925, which, it is said, favored a new doctor of public health in every locality where a health officer is needed; it is pointed out that the University of Michigan and the Detroit College of Medicine have inaugurated courses in public health whereby a layman may in a comparatively short time qualify as a doctor of public health and be allowed to practice preventive medicine. The society held the view that all health officers should first be physicians licensed to practice by the board of registration of the state of Michigan.

MINNESOTA

Chiropractors Sentenced.—William F. Wittig and Mathilde C. Andresen, chiropractors of Red Wing, were recently sentenced to thirty days in the Goodhue County jail and fined $50 each for practicing without a license.

University News.—E. F. Burton, Ph.D., department of physics, Toronto University Faculty of Medicine, Toronto, Canada, will lecture at the University of Minnesota, March 30, on "The Physics of the Ultramicroscope: Its Structure and Use, and the Optical Properties of Suspended Particles and Colloidal Cells."

Personal.—Dr. John A. Thabes, Brainerd, has been reappointed a member of the state board of health.——Dr. John T. Bowers has been elected city physician of Thief River Falls, to succeed Dr. Herman W. Froehlich.——Dr. Paul A. O'Leary, Rochester, Minn., has been elected president of the Minnesota Dermatological Society, and Dr. Dale D. Turnacliff, Minneapolis, secretary.

MISSISSIPPI

Governor Signs Antievolution Bill.—Governor Whitfield signed the antievolution bill, March 11, thus enacting a law which prohibits the teaching in state supported schools of the theory that man descended from another form of animal life. The penalty for violation of the law is a fine of from $100 to $500, and revocation of the license of the teacher convicted. This issue is said to have been "injected" into the legislature by organizations outside the state. Within a few minutes after the governor signed the Evans-Hickey bill, a bill had been introduced in the house to repeal the antievolution law.

MISSOURI

License Refused.—Following an investigation, the Hospital and Health Board of Kansas City has refused Dr. Charles O. Ozias a license to conduct a clinic and hospital. Ozias was recently fined $250 for conducting a clinic in Kansas City without a license, it is reported.

Society News.—Dr. John J. R. Macleod, professor of physiology, University of Toronto, Canada, addressed the annual banquet of the Kansas City Academy of Medicine, Kansas City, February 5, on "Some Further Work on Insulin."——The Jackson County Medical Society, Kansas City, will hold a symposium on infantile paralysis, March 30, in which Dr. Frank C. Neff will discuss "The Early Diagnosis and Treatment of Acute Infantile Paralysis," and Dr. Rexford L. Diveley will report on the 1925 epidemic in Kansas City; Dr. Charles S. Williamson, professor and head of the department of medicine, University of Illinois School of Medicine, Chicago, who will be the guest of honor at the fourth annual "president's night," April 6, will speak on "Management of the Simple Anemias."

New Medical School in Kansas City.—A campaign is under way to raise $5,000,000 for a new university in Kansas City to be known as the Lincoln and Lee University. The movement is sponsored largely by the Methodist church, which will elect one half of the members of the board of trustees, and other denominations will elect the remainder. The project is said to be meeting with enthusiasm, particularly among persons interested in the prospect of a school which will have a religious environment. One of the first departments to be established will be the medical department; the trustees contemplate breaking ground this fall, and the beginning of class work one year from that time. The president of the board of trustees is Bishop E. L. Waldorf of the Kansas City District and the Methodist Episcopal church.

NEW YORK

Gift for Study of Children.—An anonymous friend of Vassar College has given that institution $75,000 to erect a demonstration laboratory in connection with the course in eugenics. The laboratory will be used for the scientific study of the care of children from infancy to school age.

Dr. McKay Resigns.—Dr. Florence L. McKay, director of the division of maternity, infancy and child hygiene, state department of health, since 1921, has tendered her resignation, effective at once, on account of ill health, and Dr. Elizabeth M. Gardiner, associate director of the division, has been appointed to succeed Dr. McKay. Dr. Gardiner has been in the state health department for about two years and a half, and formerly was director of the Child Welfare Division of the Rhode Island State Department of Health.

New York City

Dr. Welch Honored.—The Association of the Alumni of the College of Physicians and Surgeons in New York gave a dinner, March 19, at the Waldorf-Astoria, in honor of Dr. William H. Welch, director, School of Hygiene and Public Health, Johns Hopkins University, Baltimore; Dr. Welch spoke on "Reminiscences of the College of Physicians and Surgeons in the Seventies."

"Prescription Bootlegging." — Warrants were issued, March 17, for the arrest of a number of physicians, druggists and distillery salesmen, who were charged with "prescription bootlegging" of a new form in which they are said to have sold their prescription books, signed in blank, to distillery salesmen, who, in turn, sold them to druggists. Testimony obtained after a three months investigation will be presented to the grand jury, it is reported, with a view to indicting a total of about 100 "doctors." A number of those accused have denied the charge.

"Blizzard Class" Reunion.—The thirty-eighth anniversary of the "blizzard class" of Bellevue Hospital Medical College will be celebrated, April 10, at the Hotel McAlpin, 7 p. m. The class, which will again be the guests of their fellow alumnus Dr. David Hunter McAlpin, graduated, March 12, 1888, the date of the memorable blizzard; seventy-five of the 144 graduates are still living; any one of them who has failed to receive an invitation and desires to attend should address the acting secretary, Dr. S. Adolphus Knopf, 16 West Ninety-Fifth Street, New York City.

Society News.—Dr. Richard W. Westbrook addressed the Medical Society of the County of Kings, March 16, on "Blair Bell's Treatment of Cancer with Colloidal Leads"; this society recently received a request for 500 copies of the picture of its new library building from another society, which is planning to build a home.——Dr. George H. Fox, honorary president of the American Dermatological Association, addressed a joint meeting of the West Side Clinical Society and the Washington Heights Medical Society, March 11.——Dr. Louis I. Harris, commissioner of health, addressed the annual meeting of the Mount Sinai Society, March 21, on "The Hospital and Public Health."——Dr. Paul D. White, Boston, addressed the Medical Society of the County of New York, March 22, on "Endocarditis in Earliest Childhood."——Dr. Charles L. Scudder, Boston, addressed the New York Academy of Medicine, March 18, on "When Is Operative Treatment Justified in Fractures of the Long Bones?" and Dr. Joseph A. Blake on "Difficulties in Reduction of Fractures in Long Bones and the Principles of Treatment"; Dr. James M. Hitzrot on "The Cause of Nonunion," and Dr. William Darrach on "Fractures in the Aged, Their Prognosis and Treatment."——Dr. Dennett L. Richardson, director, City Hospital, Providence, R. I., addressed the Yorkville Medical Society, March 15, on "Care and Hospitalization of Infectious Diseases."—Dr. Dean Lewis, professor of surgery, Johns Hopkins University Medical School, Baltimore, addressed the Brooklyn Surgical Society, March 4, on "Sarcoma of Bone," and was the guest of honor at a dinner and reception.——Dr. Harry E. Stewart, New Haven, Conn., was elected president of the New York Electrotherapeutic Society, March 3, and Dr. Charles R. Brooke, Newark, N. J., secretary.

OHIO

Another "College President" Indicted.—Solomon L. Long, head of the "College of Anatomical Science" at Cleveland, was indicted, March 9, by the county grand jury, having been charged, following an investigation by the state medical board, it is reported, with issuing a "false medical diploma," conferring the degree of "doctor of anatomical science." Prior to coming to Cleveland, Long is said to have conducted a school in Fort Wayne, Ind.

Impostor's Patient Dies of Lead Poisoning.—The state medical board of Ohio recently caused the arrest of William H. Young at Gallipolis, who, it is reported, had been treating a patient for varicose ulcers by means of an ointment and plasters that contained lead. The patient, who was eventually removed to a hospital, died, and the cause given in the death certificate was lead poisoning. Young is said to have obtained about $1,500 from the family. He is not a practitioner of medicine and has no certificate to practice in Ohio; he was bound over to the grand jury on a charge of manslaughter.

PENNSYLVANIA

Typhoid Fever Epidemic at New Milford.—Fifty cases of typhoid fever and three deaths were reported at New Milford, March 12. The American Red Cross had sent ten nurses to the village (the population is about 600) and other nurses were obtained from Scranton, and from Binghamton, N. Y. With one exception, the victims are under 30 years of age. The water supply is said to account for the epidemic.

Endowment for Henry Phipps Institute.—The trustees of the University of Pennsylvania have accepted the offer of Mr. and Mrs. Henry Phipps, New York, to assist in creating an endowment for the Henry Phipps Institute by which they will give $500,000 on condition that the university raises a like amount before Jan. 1, 1927. On fulfilment of this condition, all buildings and equipment belonging to the institute will be deeded to the university. Further plans by the university are for the gradual accumulation of funds allotted to the institute in its campaign to raise $45,000,000 over a term of fifteen years, so that when the campaign is successfully completed, the Phipps Institute will have an endowment of $2,300,000. The institute was placed under the care of the University of Pennsylvania in 1910, Mr. Phipps supplying the funds to maintain the work until 1919, and partly since that time in conjunction with the university, the Carnegie Corporation and the Welfare Federation of Philadelphia. While the institute was founded for the study, treatment and prevention of tuberculosis, provision is made in the plan for endowment that when further study of tuberculosis is no longer pressing, the income of the endowment may be used for the study of other diseases. The directors of the institute now are Drs. Charles J. Hatfield, Eugene L. Opie and Henry R. M. Landis. There has never been an endowment for the Henry Phipps Institute.

Philadelphia

Personal.—Dr. George A. Ulrich has been appointed chief visiting obstetrician to the Northwestern General Hospital. ——At the eighteenth annual business meeting of the Pennsylvania Conference of Social Welfare, Dr. Isaac M. Rubinow was elected president for 1927.

Society Dedicates New Home.—The Philadelphia County Medical Society will dedicate its new home, April 21, with exercises at 2 o'clock, and final dedicatory exercises at 8: 30 p. m The next evening at 8·30 will be ladies' night, when there will be a reception, musicale and dance; the building will be open for inspection both days of the celebration.

RHODE ISLAND

Hospital News.—The new $150,000 South County Hospital, Wakefield, was recently dedicated. Facilities have been provided for twenty-two beds at present, and the building will accommodate almost twice that number of patients.

Society News.—Dr. James F. Cooper, New York, of the American Birth Control League, addressed the Washington County Medical Society, Westerly, recently on "The Technic of Contraception."——Alonzo R. Williams, Esq., Providence, addressed the Rhode Island Medico-Legal Society, recently, on "The Medical Man on the Witness Stand."——The program of the Providence Medical Association February meeting was devoted to medical education; addresses were made by Dr. Samuel R. Meaker, Harvard University, on "The Postgraduate Medical Education"; Dr. Alexander S. Begg, dean and Waterhouse professor of anatomy, Boston University School of Medicine, on "Undergraduate Medical Education," and Frank G. Wren, A.M., of Tufts College, Medford, on "Premedical Education."——Dr. Jeffrey J. Walsh, Providence, has been elected president of the Rhode Island Ophthalmological Society.

WASHINGTON

Sanipractors and the Referendum.—John E. Lydon, former president of the defunct American University of Sanipractic of Seattle, is circulating a petition to obtain signatures to file with the secretary of state, for a referendum on a broader recognition of sanipractic in Washington at the November election. The sanipractic bill was defeated recently in the legislature. Should it become a law by referendum, the licenses of about ninety sanipractors, which were revoked because of fraud in connection with the diploma mill exposé, would be restored; there would be a separate board of examiners for sanipractors, and the examinations would be conducted by the secretary of state instead of by the director of licenses who now conducts such examinations. It may be recalled that John E. Lydon's "university business" grew so rapidly and the complaints of selling diplomas became so numerous that the state instituted proceedings to dissolve his school. The court ordered the university closed. A law was then passed which made it possible to revoke the licenses of about ninety sanipractors which were said to be fraudulently obtained. Lydon recently presented two bills to the legislature, and both of them received unfavorable reports in committee. He is now trying to obtain a referendum.

WISCONSIN

Personal.—Dr. and Mrs. Joseph Schneider, Milwaukee, gave the Milwaukee University School $50,000 in February to be applied on the new building.——Dr. Robert D. Millard has taken up postgraduate work at the Wisconsin General Hospital, Madison, following three years spent in Honolulu.—— Dr. Stephen Cahana and Felix J. Baur have been appointed fire department physicians of Milwaukee.——Dr. Otho A. Fiedler, Sheboygan, has been reelected president of the state board of health, and Dr. Cornelius A. Harper reelected as state health officer.

GENERAL

Fund to Encourage Pharmaceutic Research.—The American Pharmaceutical Association has available a fund of $450, which will be expended after October 1 for the encouragement of research. Investigators who desire financial aid in their work should communicate with the chairman of the research committee, H. V. Arny, 115 West Sixty-Eighth Street, New York, before June 1, giving their record and outlining the line of work for which the grant is desired.

Fatalities in Coal Mines.—According to the bureau of mines, 318 men lost their lives in January on account of accidents in coal mines in the United States. This unusually large total was due to four major explosions, the most disastrous one being that of Wilburton, Okla., January 13, in which ninety-one men were killed. Another occurred at Farmville, W. Va., January 14, killing nineteen men; another at Frankfort, Ill., January 29, killing five men, and another at Helena, Ala., January 29, killing twenty-seven men. There were more than 1,000 men in the mine at Frankfort when the explosion occurred, and the death of only five is attributed to the use of rock dust, which localized the effects of the blast.

New County Society Presidents.—The following physicians have recently been elected president of the county medical society indicated:

Dr. John T. Anderson, Warrensburg, Mo., Johnson County Medical Society.
Dr. Louis Bagby, Vinita, Okla., Craig County Medical Society.
Dr. Charles G. Baird, Beatrice, Neb., Gage County Medical Society.
Dr. Alonzo W. Benton, Neosho, Mo., Newton County Medical Society.
Dr. William W. Bolster, Lewiston, Me., Androscoggin County Medical Society.
Dr. Edward T. Bramlitt, Malvern, Ark., Hot Spring County Medical Society.
Dr. Thad Cothern, Jonesboro, Ark., Craighead County Medical Society.
Dr. Robert L. Crawford, Locust Grove, Ga., Henry County Medical Society.
Dr. Alton W. Davis, Warrenton, Ga., Warren County Medical Society.
Dr. L. Lea Doane, Butler, Pa., Butler County Medical Society.
Dr. William J. Durant, Rolla, Mo., Phelps County Medical Society.
Dr. John N. Ellison, Portsmouth, Ohio, Sciota County Medical Society.
Dr. William M. Fambrough, Bostwick, Ga., Morgan County Medical Society.
Dr. John E. Ferringer, Stoneboro, Pa., Mercer County Medical Society.
Dr. Claude P. Fordyce, Falls City, Neb., Richardson County Medical Society.
Dr. Charles E. Garratt, Hot Springs National Park, Ark., Garland-Hot Springs Counties Medical Society.
Dr. Arthur G. Harrison, Searcy, Ark., White County Medical Society.
Dr. George L. Henderson, Conway, Ark., Faulkner County Medical Society.
Dr. Frederick M. Houghtaling, Sandusky, Ohio, Erie County Medical Society.
Dr. William E. Johnson, Belle, Mo., Gasconade-Maries-Osage County Medical Society.
Dr. Buford O. Joiner, Tennille, Ga., Washington County Medical Society.
Dr. William C. McCarver, Vidette, Ga., Burke County Medical Society.
Dr. Walter A. Miller, Arabi, Ga., Crisp County Medical Society.
Dr. West Montgomery, Mentor, Ohio, Lake County Medical Society.
Dr. Mass R. Noland, Moberly, Mo., Randolph County Medical Society.
Dr. Clarence A. Peaslee, Bath, Me., Sagadahoc County Medical Society.
Dr. John W. Pickel, Barnhart, Mo., Jefferson County Medical Society.
Dr. Mandelle Y. Pope, Monticello, Ark., Drew County Medical Society.
Dr. Thomas E. Presley, Roswell, N. M., Chaves County Medical Society.
Dr. Edward E. Robinson, Adrian, Mo., Bates County Medical Society.
Dr. James P. Schureman, New Brunswick, N. J., Middlesex County Medical Society.
Dr. Joseph W. Shaw, Cushocton, Ohio, Cushocton County Medical Society.
Dr. Foote R. Singleton, Slidell, La., St. Tammany Parish Medical Society.
Dr. Mathew W. Spearman, Chickamauga, Ga., Walker County Medical Society.
Dr. Charles W. Stone, Cleveland, Ohio, Cuyahoga County Medical Society.
Dr. Otis R. Thompson, Macon, Ga., Bibb County Medical Society.
Dr. Hiram D. Vaughter, Byers, Texas, Clay County Medical Society.
Dr. Frank M. Virtue, Sulphur Springs, Ohio, Crawford County Medical Society.
Dr. Daphney E. White, Eldorado, Ark., Union County Medical Society.
Dr. William E. Wofford, Cartersville, Ga., Bartow County Medical Society.
Dr. Rennie Wright, New Braunfels, Texas, Comal County Medical Society.

Bills to Standardize Clinical Thermometers.—Prospects for legislation to standardize clinical thermometers at the present session of Congress are uncertain because proponents of this legislation do not agree on the details of pending bills. A hearing was held by the Senate committee on interstate commerce, March 4, on two bills introduced by Senator Royal S. Copeland, New York, to regulate interstate commerce in the traffic of clinical thermometers. The first bill provides that all thermometers sold in interstate commerce should be tested by the bureau of standards at Washington. The objections to this measure are that it imposes undue hardship on reputable manufacturers of clinical thermometers and would increase the cost of thermometers, as a reasonable fee would be paid by the manufacturer to the government for such tests. The manufacturers would have to bear, too, the expense and losses incident to shipment to and from the government testing laboratories. The second bill would regulate the standard of clinical thermometers by requiring manufacturers to secure from the secretary of commerce licenses or permits, which would be issued after the inspection of the plants and factories to ascertain "the ability of the manufacturers to promote and to promulgate the rules and regulations" fixed by the bill. Dr. William C. Woodward, Chicago, secretary, Bureau of Legal Medicine and Legislation of the American Medical Association, stated to the committee that that organization favored the principles of the bill providing for the licensing system; he did not unqualifiedly approve the measure, however, indicating that it should be redrafted to overcome obscurities apparent in its phraseology; among others who made statements before the committee were Dr. W. P. Morrill, Washington, D. C., representing the American Hospital Association; Mr. G. P. Faichney of the Faichney Instrument Corporation, Watertown, N. Y., and Mr. M. W. Becton of the Becton-Dickinson Company, Rutherford, N. Y. It was the opinion of all witnesses that methods should be devised by legislation to provide that clinical thermometers be of the highest quality. It was clear, however, from the testimony presented that there is a wide difference of opinion as to the best methods to bring about such results. The committee adjourned with the feeling that no legislation is likely to be enacted until medical authorities and manufacturers can reach a general agreement on definite methods of legislation.

PHILIPPINE ISLANDS

Personal.—Major Arthur Parker Hitchens, M. C., U. S. Army, a member of the army medical reserve board in Manila, has been detailed as technical adviser to the governor general in matters of public health.

Society News.—The Philippine Islands Medical Association has petitioned the University of the Philippines to renew the grant of 600 pesos made to the association's journal, and, if possible, to make it of permanent character; the association at its last annual business meeting in Manila voted to request the legislature to appropriate funds for the control and eradication of trachoma. The association voted at the business meeting in Manila in December to table the report of the special committee appointed to study the advisability of securing the independence of the Philippine Islands' Medical Association.

FOREIGN

Scientific Congresses in Germany.—The annual meeting of the German Association for Internal Medicine is to be held at Wiesbaden, April 12-15, with the usual annex exhibition. The topics appointed for discussion are "Neurosyphilis"; "The Blood as Mirror of Somatic Processes," and "Asthma." It is to be followed by the first general medical congress on psychotherapy. The German Surgical Congress convenes at Berlin, April 7-10, and is to be followed by the Roentgen Congress, with Dr. M. Haudek, Vienna, in the chair. The themes for discussion are "Postoperative Irradiation," "Visualization of the Gallbladder," and "Dosimetry of the Roentgen Rays."

British Medical Association Meeting.—The ninety-fourth annual meeting of the British Medical Association will be at Nottingham in July under the presidency of Dr. Frederick G. Thomson; July 16, the annual representative meeting will begin and continue the three following week days. The representative dinner will take place at the Victoria Hotel, July 16; the statutory annual general meeting, July 20; the annual dinner of the association, July 22; the conference of honorary sections, July 21; the official religious service at St. Mary's Church, July 20; a popular lecture will be delivered by Prof. Leonard Hill in the evening, July 21; and July 24 will be given up to excursions to places of interest in the neighborhood. The incoming president, Mr. Robert G. Hogarth, will deliver his address, July 20. The scientific sections will meet from 10 a. m. to 1 p. m., July 21-23.

CORRECTIONS

Philadelphia Neurological Society.—The new officers noted in The Journal, March 20, under Philadelphia Society News were elected by the Philadelphia Neurological Society instead of the Philadelphia Urological Society.

Dr. Mary Putnam is Not Dead.—The notice of the death of Dr. Mary Putnam, 124 East Fifty-Fifth Street, New York, published in The Journal, March 20, was an error, and Dr. Mary Putnam is alive and well. It was Dr. Mary S. Putnam of New York and formerly of Battle Creek, who died February 16.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 26, 1926.

The Causation of Cancer

"An Investigation into the Statistics of Cancer in Different Trades and Professions" has been published by the Medical Research Council. The inquiry was carried out by Dr. M. Young and Mr. W. T. Russell, working in collaboration with Dr. John Brownlee (director of statistics of the Medical Research Council) and Dr. E. L. Collis. They examined the records of more than 46,000 cases of death from cancer in 160 different occupations, and state that this is "a survey of the relation of cancer to occupation with a detail beyond any hitherto attempted." The group of open-air workers, including agricultural laborers, seamen in the merchant service, dock laborers and railwaymen, was found well in the front in excess of cancer of the lip. Among these, cancer of the lip is from 200 to 300 per cent in excess of what might be expected. In the next degree, having about 60 to 100 per cent in excess of the normal amount of lip cancer, are masons, laborers in general, farmers and graziers. These open-air workers have in common unrestricted opportunities for indulging in smoking, and the probability exists that twelve or fourteen years ago cheap clay pipes were favored. Coal miners working below ground, where smoking is prohibited, contrast with colliery workers above ground in not suffering any excess of lip cancer. The mortality from cancer of the lip is thirteen times and of the tongue eleven times higher among men than among women.

Alcohol appears as a predisposing cause of cancer of the tongue and esophagus. Among the groups in which cancer of this part is in excess of the average are brewers, porters, dock and wharf laborers, costermongers, hawkers and butchers, "who are supposed to consume an excessive amount of alcohol." Occupations with unusually low incidence of cancer of the tongue do not include any group with a high death rate from alcoholic diseases. But excess of cancer of the tongue is also found among slaters, tilers, cutlers, printers and plumbers; and it is said that the habit of drinking very hot tea, boiled over a fire for the mid-day meal, may furnish an explanation. Among men who have an excessive amount of cancer of the esophagus are those engaged in the liquor trade: brewers, publicans, inn and hotel keepers, beer bottlers and cellarmen, as well as commercial travelers, coachmen and cabmen, horsekeepers and grooms, and others who are supposed to consume an excessive amount of alcohol. There is thus very suggestive, if not practically conclusive, evidence that excessive consumption of alcohol predisposes to cancer of the esophagus.

The stomach is the most frequent site of cancer in men, and the disease occurs in excess among miners, quarriers, and in certain occupations in the manufacture of wool and cotton. Cancer of the larynx is high in musicians, army officers and law clerks, while cancer of the bowel is significantly above the normal in barristers, solicitors, bankers, bank clerks, teachers, commercial clerks, clergymen and others of sedentary occupation.

Medical Officialdom: Eleven Physicians to One Family

Eleven official physicians for one family is a possibility under the present system of public health services, according to the British Medical Association. A memorandum of the evidence to be given to the royal commission on local government says that the chaos and wastefulness of health administration are made worse with every act of parliament that is passed dealing with these matters. In the extreme but possible example of a poor family with one mentally defective child living in a noncounty borough, the following medical officers might be interested at the same time: the county medical officer, with his tuberculosis officer and mental deficiency officer; the borough medical officer; the maternity and child-welfare officer; the school medical officer or officers of possibly two education authorities (county and borough); the insurance practitioner or practitioners; the poor law medical officer or officers; the special physician for the treatment of venereal disease, and a special smallpox officer.

The mother of such a family will usually be attended at childbirth by a midwife, who in an emergency must call on the services of a physician (either private or the poor law medical officer). Notification that this has been done must be made to the medical officer of the county; the birth must be notified to the medical officer of health of the borough, and registered with the registrar. The house will be visited by the inspector of midwives, by the sanitary inspector, by the health visitor, by the vaccination officer, by the infant life protection visitor, by the school nurse, by a visitor under the mental deficiency act, possibly also by the relieving officer and by semiofficial or unofficial but kindly persons (as, for example, district nurses) interested in the health and well being of its inmates. When a poor patient has to go to a hospital or elsewhere there is a similar chaotic and expensive state of affairs. The many institutions are established and conducted as independent units unrelated to one another. The remedy suggested is the creation of new large health administrative areas, each controlled by a local health authority with full administrative powers, and a medical committee, elected by local physicians, to appoint representatives on the local health committee.

Military Hospital Reserve

The reorganization of the "home hospitals reserve" under the designation of the "military hospitals reserve" has been approved by the war office, and the qualifications for enrolment are stated in an army order. This reserve will consist of warrant and noncommissioned officers and privates only, with an authorized establishment of 2,000. The functions of the reserve will be (*a*) to staff the military hospitals and other establishments maintained by the regular medical services on the mobilization and withdrawal of the regular royal army medical corps for duty in the field; and (*b*) to provide reinforcements for the medical units of the expeditionary force overseas after mobilization. Membership will be entirely voluntary, and the personnel will be provided by the St. John ambulance brigade for England and Wales and northern Ireland and the St. Andrew's ambulance corps for Scotland. The age limits for enrolment will be from 19 to 40 years, and no member will be permitted to remain in the reserve after he has reached the age of 45 years. Every applicant must be in possession of the first-aid certificate recognized or granted by the St. John ambulance association, and, in addition, obtain a nursing certificate recognized by those bodies within a period of twelve months after enrolment. A proportion of the total establishment of each rank in the reserve will, in annual rotation, receive training for eight days under military arrangements. Training will be undergone in a military hospital or other military medical establishment, and as far as possible a member will be detailed for this purpose to the hospital to which he would be posted on mobilization.

Fewer Women in Medicine

Lord Sands, who presided at the annual meeting of the Carnegie trust at the universities bureau, said that although since the immediate postwar years there had been a great increase in the numbers of students in arts, as a result of the increased remuneration for teachers, in science and medicine the boom of 1920 had moved to the opposite extreme in the case of women students, for there had been a considerable measure of disillusion in regard to postwar expectations of openings for women in these professions. In medicine the number of women students was 484 in 1920, whereas the number was 101 in 1925. There was apparently a further fall this year.

The Proposed Irish Free State Medical Register

The question of a separate medical register for the Irish free state has been discussed in previous letters. Mr. R. C. B. Maunsell, president of the Royal College of Surgeons in Ireland, announced at the annual meeting of the Incorporated Orthopaedic Hospital in Dublin that, Dec. 21, 1925, three physicians were appointed as a subcommittee to discuss proposals with the free state government for a permanent arrangement with the general medical council, but since that date they had not been approached or consulted. Meanwhile, arrangements had been made for a continuance of the present system until the end of the present year, but the absence of a permanent settlement was driving medical students out of the country, and the Rockefeller Foundation had decided to break off negotiations with the free state medical profession concerning a substantial grant of money for the amalgamation of at least five Dublin hospitals.

Deaths from Septicemia Contracted in Performing Postmortem Examinations

The Cambridge Medical School has suffered the loss of a brilliant young teacher under circumstances that recall the death in January of Miss C. Iris Fox, senior assistant pathologist at the Royal Free Hospital. She died from septicemia contracted during a postmortem examination. That was also the cause of the death of Dr. M. B. R. Swann, fellow of Caius College at Cambridge, and university demonstrator in pathology.

Birth Control in Parliament

In the house of commons, Mr. Thurtle, a labor member, asked leave to present a bill to authorize local authorities to incur expenditure, when deemed expedient, in conveying knowledge of methods of birth control to married women who desired it. His purpose was to make known to very poor women information which would enable them to restrict their families, such as was at present utilized by wealthier women. Year after year the falling off in the birth rate became more and more marked in the upper and middle classes, while in the poorer classes it was almost stationary. In districts where overcrowding was most rampant and poverty most acute, there was a very high birth rate. We were spending money in broadcasting information about sanitation, personal hygiene, diet, tuberculosis and venereal disease, solely on the ground of maintaining public health, and there was not a phase in the work that was not rendered more difficult by women in the poorest districts having larger families than was good for themselves or for the state.

Another labor member, Rev. J. Barr, opposed the motion. The ignorance of poor women on the subject which the bill dealt with was, he said, greatly exaggerated. He desired that the very best medical information and skill should be brought to the doors of the very poor, but that was quite different from entering on a national policy of birth control and propaganda. Economically, it was a policy of despair. He believed that a bountiful creator had provided ample resources for all if there was wise production and just distribution. Moral instincts and religious prejudices—call them what they would—were, after all, the purest, finest and most potent influences in the uplift of mankind. In such questions they were as sure a guide as science itself, and if we chose to defy them we did so at our own peril and the peril of the state. The bill was rejected by 187 votes to 81.

PARIS

(From Our Regular Correspondent)

Feb. 16, 1926.

Functions of Region About Infundibulum and Tuber Cinereum, and Its Relation to Pituitary Body

Gustave Roussy, to whom we are indebted, along with Camus, for important researches on the functions of the infundibulotuberal region, contributes an excellent article on the subject in a recent number of the *Annales de médecine.* Pierre Marie was the first (in describing acromegaly) to call attention to the rôle of the pituitary body. The history of the gland may be divided into two main periods: First, the physiologic importance of the pituitary body was established experimentally by Harvey Cushing, Bield and Marañon. Since the researches of those authors, we speak of syndromes of the anterior lobe and syndromes of the posterior lobe, and the hypophysis has occupied a place of first rank in the physiology of the endocrine glands. Second, beginning in 1911 with the researches of Aschner, Camus and Roussy, there has been a tendency to limit the number of functions attributed to the pituitary body, or, more particularly, to the nervous lobe, and to attach the functions thus dispossessed to the series of nuclei in the gray substance of the floor of the third ventricle.

The experimental data on which Camus and Roussy based their conclusions are given in detail in their communication presented at the International Congress of Neurology held in 1922. In the course of their researches they experimented with 149 dogs and forty-six cats. In some instances they removed the hypophysis by the parietal or palatine route; in other cases they induced lesions in the infundibulum and tuber cinereum by piercing the palatine velum with a red-hot drill. One primary fact brought out by the experiments was that, contrary to the view held by other authors, the hypophysis is not indispensable to life. It is true that many animals operated on die, but mere puncture of the region of the infundibulum and tuber cinereum, with the hypophysis left intact, is just as fatal. Furthermore, several animals survived for a long time the complete removal of the hypophysis as verified at necropsy.

Harvey Cushing was the first to call attention to the polyuria resulting from operations on the hypophysis, and particularly on the posterior lobe. In 1913, Camus and Roussy showed that polyuria could be caused by wounding the region of the infundibulum and tuber cinereum alone. In operations for the extirpation of the hypophysis, polyuria is occasionally observed, but only when, during the operation, a lesion of the tuber cinereum region is effected. If the tuberal region is injured, while the hypophysis remains intact, polyuria is always induced, sometimes of a transient character, and sometimes more or less permanent, amounting thus to diabetes insipidus. Studies seem to indicate that the injured region forms part of a regulatory mechanism controlling micturition. Sometimes, polyuria and polydipsia are concomitant; at other times, polyuria is observed without polydipsia. A lesion of the base of the brain never causes polyuria in young animals, which would seem to indicate that the centers concerned are not sufficiently developed in young animals. Experimental polyuria sometimes amounts to from four to six times the normal quantity. Sometimes it occurs the first day and, in other cases, from the fourth to the tenth day.

In the experiments of Camus and Roussy, experimental glycosuria, which to some investigators has seemed an essention finding (Aschner), was rarely found and, when it did occur, it was of a transient character. Its occurrence, however, indicates a different regulatory mechanism for the metabolism of carbohydrates, not in the posterior lobe of the hypophysis but in the floor of the third ventricle. Removal of the hypophysis, when accomplished without injuring the base of the brain, does not cause atrophy of the genitalia nor modify their functions. However, with certain experimental lesions of the base of the brain, the authors observed genital atrophy in dogs, or, at least an arrest of development and suppression of libido. In several instances, following experimental lesions of the base of the brain, the authors noted undue increase of adipose tissue. Such obesity is sometimes sudden and marked. Genital atrophy associated with obesity constitutes the classic syndrome described by Babinski and Froehlich. The syndrome may be combined with diabetes insipidus and be of a permanent character, but never did the mere removal of the hypophysis produce such manifestations.

For some time it has been admitted that injection of pituitary extract will induce polyuria (Schäfer and Magnus, 1901), the "polyuric substance" being contained in the posterior lobe. The substance, coursing through the blood, acts directly on the secretory renal cells, independent of any vasomotor action.

Removal of the posterior lobe of the hypophysis causes no appreciable injury. Furthermore, Camus and Roussy observed experimentally that occasionally injection of pituitary extract, instead of stimulating, may depress micturition. The selective rôle of pituitary extracts remains therefore to be demonstrated. The effect of experimental lesions of the base of the brain on the general development of the animal is not fully established as yet. Development seems to be a function of the anterior lobe of the hypophysis, for the action of that lobe on the development of the skeleton appears to be great.

Microscopic study of experimental specimens by Camus and Roussy enabled them to affirm with still greater confidence that the polyuric syndrome is not induced by a hypophysial lesion but by a superficial lesion of the region of the tuber cinereum. Such lesions affect the nuclei of the tuber cinereum, chiefly in their middle and anterior portions.

The authors have not been able as yet to localize definitely the centers which, when injured, cause glycosuria and adiposogenital disorders. In recent years, Camus and Legrand have again been studying the question of the glycosuric center by experimenting on rabbits. From their researches, they conclude that experimental glycosuria in the rabbit, which is irregular, usually tardy in appearance and sometimes prolonged, is produced by a lesion of the paraventricular nucleus located on each side of the wall of the third ventricle within the anterior pillar of the trigon. A number of anatomic and clinical observations have thrown light on the experimental questions. They have observed, for example, several cases of polyuric syndromes following inflammatory or neoplasic processes at the base of the brain, while the hypophysis remained intact (syphilitic or tuberculous meningitis, epidemic encephalitis or possibly traumatism).

The researches described have tended to dispossess the hypophysis of some of its supposed functions and to bestow them on the tuber cinereum. The rôle of the anterior lobe in the growth of the skeleton, and in dwarfism and gigantism, remains incontestable. Of late, researches have been made on the mechanism of experimental polyuria. It has been shown that polyuria occurs even after denervation of the kidney. The nervous system, therefore, has nothing to do with the production of experimental polyuria.

Researches have been made to discover whether substances circulating in the blood might cause the phenomenon. It has been observed (Bailey and Bremer) that if a polyuric animal is given an extra amount of sodium chloride in its food, the polyuria is much more marked than otherwise. That is especially true of polyuria following a lesion of the tuber cinereum.

Camus and Gournay have endeavored to produce polyuria in normal dogs by injecting into them the blood or urine of polyuric animals, or even by transfusing into them, by cross circulation, the blood of polyuric animals, but the experiments gave only negative results. The same authors have observed also that, while all the other substances eliminated in the polyuric urines were merely diluted, the phosphates and the purine bases were considerably increased, sometimes in the proportion of 30 to 1. The authors then injected purine bases (guanine, adenine, hypoxanthine) into normal dogs subcutaneously or intravenously, thereby inducing, according to the amount injected, either a transient polyuria or diabetes insipidus of long duration. Their experiments indicate that modifications in the elimination of decomposition products of nucleoproteins may explain the mechanism of experimental diabetes insipidus. Such an assumption meets with objections, and the question must be studied further.

Researches of great interest have recently been carried out in Nancy by Professor Collin on the histophysiology of the hypophysial secretion. His researches tend to show that the hypophysis exerts an influence on the function and nutrition of important centers located at the base of the brain. Collin has shown also that the colloid that exists in the anterior lobe, in the pars intermedia, and in the interstitial tissue of the posterior lobe may be traced along the wall of the infundibulum up to the immediate vicinity of the nerve cells of the tuber cinereum. We may conclude from that fact that the "neuro-endocrine" secretion plays a very important part in the functioning of the centers found to exist at the base of the brain.

The Medical Examination of Railway Employees

Medical examination of railway employees was recently discussed before the Academy of Medicine. Professor Guillain emphasized the necessity of examinations at intervals of five years for young persons and of three years for elderly employees. Especially neuropsychiatric and cardiologic examinations should be more frequent. Employees whose duties affect the public safety—particularly locomotive engineers—should undergo ophthalmologic examination every two years. Engineers subject to alcoholism should be dismissed at once.

Professor de Lapersonne pointed out that among railway companies there was no uniformity in ophthalmologic examination and that the examination itself left much to be desired. Examination of vision should be very precise and should include color tests. The best method of examining an engineer would seem to be while performing his duties on his engine. When it is impossible to examine an engineer actually on duty, apparatus could be employed which would simulate actual conditions. Promptness in recognizing signals is an important factor, for an engineer may have to react to 200 signals on a 100 kilometer run, while going 80 kilometers an hour.

Functional examination of the pupils is very important. Some railway systems have only one ophthalmologist, to whom only doubtful cases are submitted. The ordinary examinations are made by the physicians of the companies, who, while they may be competent practitioners, have not the skill of specialists.

M. Guillain read a letter from the federation of railway workers which pointed out the financial straits to which dismissal would reduce them. The academy declared that their sole duty was to recognize diseases which might cause accidents.

RIO DE JANEIRO

(From Our Regular Correspondent)

Feb. 15, 1926.

Hemilaryngectomy

Dr. Souza Mendes recently reported to the Medical and Surgical Society a case of hemilaryngectomy, the first time this operation has been performed in Brazil. The patient, aged 56, had for more than twenty years a masked form of goiter, and suffered from a prickle cell carcinoma in the left vocal cord. Gluck and Soerensen's technic was used, with local anesthesia. Healing was by first intention, and the patient was discharged on the twelfth day following the operation. Dr. Souza Mendes discussed incidentally the excellent results secured by him and Dr. D. de Sanson in several total laryngectomies. He explained the successful outcome and benign course in such cases through the great humidity and high temperature in Rio. These seem to block rather effectively postoperative pneumonia, so frequent in Europe in such cases.

Progressive Muscular Atrophy

Prof. Henrique Roxo exhibited before the Society of Neurology and Legal Medicine a case of progressive muscular atrophy with mental degeneration. Since infancy there had been a perverse tendency, which toward puberty took the form of sexual perversion. After suffering four years ago from headaches, fever and convulsions, muscular changes developed, with atrophy of the thenar and hypothenar prominences and claw hand in the right upper extremity. There is also marked atrophy in the muscles of the forearm, arm and shoulder. The opposite arm shows decreased thickness and energy, but the forearm and hand have remained so far normal. The right lower member is completely atrophied, but the left leg is perfectly normal. Sensation seems normal; there is weakening of the tendon reflexes; there is lack of response to faradic excitation, but a positive galvanic reaction; Nonne's test is negative. Roxo contrasted the features of infantile paralysis and Duchenne-Aran's progressive muscular atrophy. His patient has the peculiarity that while the atrophy began typically enough in the hand in one side, it has started in the upper arm in the other extremity. The type seems also uncommon, because of the presence of degeneration.

Industrial Sanitation

In discussing the subject of industrial medicine before the Brazilian Society of Public Health, Dr. J. de Barros Barreto referred especially to American methods and practices, describing his observations in a number of workshops visited by him in the United States. He discussed the employment of patients with tuberculosis and heart disease, preventive training in industrial safety, free medical first aid and dental clinics for workers, and the rôle of visiting nurses in industry. Barros Barreto stressed the value of periodic health examinations from the standpoint of the workers. He also showed the need of placing this work in the hands of experts. In concluding, plans were sketched for introducing industrial hygiene work in Brazil.

Neurorelapse

Dr. G. de Moura Costa reported to the Society of Neurology, Psychiatry and Legal Medicine a case in which the patient received at first two injections of neo-arsphenamine. Fifteen days afterward, headaches and right peripheral facial paralysis appeared. The interesting part was the enormous cerebrospinal lymphocytosis, 3,160 per cubic centimeter, probably the highest on record, as Van Haecke found only 2,400; Benario, 2,000; Dreyfus, 1,600; Zealoziecke, 1,500, and Jeanselme, 900. After an arsphenamine course, with a total dosage of 7 Gm., all symptoms disappeared, and the cerebrospinal fluid became normal. A neurorelapse is always proof of insufficient arsenical treatment. Among approximately 800,000 injections of mercury, Moura has never seen a single nerve relapse.

Public Health Courses

The law reforming medical teaching in Brazil created a special postgraduate course in hygiene and public health for physicians. Those completing the course become eligible to positions under the federal public health service, without having to pass the usual examination. The course is given in the Oswaldo Cruz Institute, under the supervision of the dean of the medical school. It includes: general epidemiology and prophylaxis; organization of special preventive measures; applied biometrics and statistics; food hygiene and bromatologic essentials; urban and rural sanitation; prenatal care, infant hygiene and school sanitation; professional and industrial hygiene; public health administration, and legislation. The course lasts a whole year. As a prerequisite for enrolment, an M.D. degree and completion of a course in microbiology in the Oswaldo Cruz Institute (or its equivalent as proved by examination) are essential.

Personal

At the invitation of the Paris and Berlin universities, Prof. M. Couto, president of the National Academy of Medicine and the most prominent Brazilian clinician, has left for Europe to deliver several lectures.

BERLIN

(From Our Regular Correspondent)

Feb. 13, 1926.

Swimming Pool Conjunctivitis

In the Berliner Verein für Schulgesundheitspflege, Prof. Dr. Comberg of Berlin discussed swimming pool conjunctivitis. It was first observed in Berlin in 1899. In 1919 forty-six cases developed among patrons of the Neukölln city baths. The disease manifests itself in the following manner: A few days after exposure in the swimming pool, one eye becomes red and swollen. This condition is accompanied by lacrimation and a slight narrowing of the palpebral fissure. The follicles of the lower lid are swollen, and, in severe cases, the same condition occurs in the upper lid. Only the conjunctiva is affected. Ulcers do not occur. The infection lasts usually only a few weeks, yielding to treatment. Patients are often unaware of the condition. In 1919, of 250 bathers at the Neukölln swimming pool, Comberg found ten affected with the disease, unknown to themselves. Since 1919, 416 cases have been observed. However, during the last nine months, prophylactic measures have been instituted in all the swimming pools of the city, and no new cases have developed, although recurrences in former patients have been noted.

Prof. Dr. Seligmann of Berlin discussed the prophylactic measures that have been employed. Daily treatment of the water with chlorine gas has been effective. Every few days, the water of the pools is subjected to a chemical, bacteriologic and biologic examination. In addition to disappearance of the conjunctivitis, an indirect hygienic advantage is that it is now unnecessary to change the water daily. This saves time and money, so that the price of baths has been reduced.

Distribution of Age-Groups in Germany

"The war and, to no less extent, the inflation of the currency have left their fatal mark on the distribution of age-groups in Germany, and one of the principal tasks of the interpreter of the figures of the last general census is to explain the probable effects of future adjustments," writes Oberregierungsrat Roesle in the *Deutsche medizinische Wochenschrift*. He emphasizes the reduced percentage of children under 10 years of age and because of war losses of men between the ages 26 and 45. To be sure, there is a reserve force in the men and women born between 1900 and 1914, who now constitute the 11-25 age-group, and who represent a larger percentage of the total population than the corresponding group did in 1910. It is, however, doubtful whether the 11-25 age-group, which, during its physical development, suffered from the exigencies of war and which, in the coming years, will bear the burden of the peace treaty, will develop greater fertility than the present group that is passing through the productive stage of life. Roesle thinks it probable that, in view of prospective burdens, they will restrict the number of their children.

Those who do not find an opening or who demand better living conditions than their environment promises them, emigrate to other lands. Therefore Germany, since the war, has again become a migrating nation, and, from all appearances, will remain such until the age-groups weakened by the war and postwar inflation have taken their places in the economic and industrial life of the country. This, however, will not be before 1930.

The modifications in the age distribution of Germany's population influence the mortality rates. German mortality rates since 1921 have been the lowest ever recorded. One of the most important causes is the changed age distribution of the population. With the decrease in the number of births, there has been a decrease in the number of children dying. At the same time, the life expectancy of children has increased greatly. In 1924, the proportion of deaths among children under 1 year of age was only 18.7 per cent of the total number of deaths, as compared with 26.4 per cent in 1913 and 35.8 in 1901. There has therefore been a shifting of the age distribution of decedents in recent years, in the direction of the older age-groups, beginning with the 10-20 group.

PRAGUE

(From Our Regular Correspondent)

March 1, 1926.

Veneral Disease Census

The first period of reporting of cases of venereal disease occurred in February, 1921. At that time notification was not obligatory. The new law on venereal disease control, enacted July 11, 1922, includes a clause leaving it to the discretion of the ministry of health to require, when necessary, from physicians and medical institutions, notification of venereal diseases. The names of patients are not required to be given. The ministry of health plans to order such reporting over a period of one month every five years. The month of February was selected, and February, 1926, was chosen for the second period of reporting. During the first venereal disease census all the cases under treatment were reportable, but this time reports were confined to cases which came under treatment by physicians for the first time in the course of the month. The reason for this is that the health service is not so much interested in the number of infected persons as it is in the incidence of new infections. The revelation of a big reduction in the incidence of these diseases is anticipated. The total reported this time is over 21,000. By another scheme of notification, venereal patients are compelled to continue treatment until symptomless. Every physician is obliged to report patients by name to the health authorities if they discontinue treatment before they are released by him.

Section for Study and Reform of Health Service

Five years ago a section for the study and reform of health service was organized in the ministry of health in cooperation with the International Health Board of the Rockefeller Foundation. This bureau was composed chiefly of former fellows of the Rockefeller Foundation who were sent to the United States for postgraduate education in public health. To the section an advisory board was added which was supposed to adapt to local needs the new ideas brought forward by the former fellows. Under the auspices of the section, national surveys of tuberculosis and venereal disease have been conducted which served as a basis for national programs to combat these diseases. A bureau for public health education was created in the ministry of health, and public health demonstrations have been organized. Recently the section has been transferred to the state institute of public health, which is being conducted in cooperation with the International Health Board of the Rockefeller Foundation.

New President of Association of Czech Physicians

Prof. Ladislav Syllaba gave his opening lecture, February 8, as the newly elected president of the Association of Czech Physicians in Prague. Professor Syllaba gave a birds'-eye view of the development of this corporation since its foundation in 1862. The association owes its existence to the initiative of J. E. Purkinje, who held the chair of physiology in Prague at that time. The first meetings were held in the lecture room of the physiologic institute, and Purkinje, with his pupils, supplied most of the material for papers and discussions. Purkinje remained at the head of the association until his death in 1869. Since its creation, the association has held meetings every Monday. While most of the lectures come from the different institutes of the medical faculty, practicing physicians show great interest in the proceedings of the association. Thus, the association has become an important instrument for raising the standard of the practicing medical profession. The new president of the Prague Association is the head of the Czech clinic for internal diseases in Prague.

Sickness Insurance

At present, private officials (clerks, accounting officers, supervisors in factories, managers) come under the general sickness insurance law, which includes chiefly industrial and agricultural laborers. The laborers are chiefly interested in the financial benefits from the insurance in case of sickness. On the other hand, private officials are usually employed on contract, and in case of sickness their salaries continue for a certain period. Therefore they are more interested in the quality of the medical service to which they are entitled under the insurance. After long discussion, it has been decided that sickness insurance for laborers shall be separated from that of private officials. In the bill that will be submitted to parliament, the emphasis is laid on medical service. The patient shall be free to choose his physician from a list of practitioners who have declared themselves willing to treat patients under the terms of the insurance fund. This measure, furthermore, satisfies the medical profession, which for a long time has been fighting for this system.

Physical Development of School Children

Recently, in the district of Kralupy, the Czech Anthropological Institute in Prague has weighed and measured 3,000 school children. There is much immigration into this district, owing to intensive industry. Therefore the average child in Kralupy can be taken as representative of the children of an industrial community of Czechoslovakia. The results were tabulated and standards determined for different ages and both sexes. These results were compared with similar figures for 1895. The comparison shows that the children of the present generation are generally one year more advanced in their development than those thirty years ago. The explanation suggests itself that the conditions under which children live have improved. Therefore there may be an earlier development during the preschool age, so that the children enter school in better physical condition than was the case thirty years ago.

Marriages

HERMAN BRYAN, Chufos Province Shantung, China, to Miss Esther J. Love, formerly of Fremont, Ohio, at Shanghai, February 15.

WILMER C. EDWARDS to Miss Lucile B. Postel, both of Richland Center, Wis., February 19.

EDWARD HAROLD MAUER to Miss Anna Felice Egan, both of New Orleans, February 10.

Deaths

George Frederick Keiper ⊕ Lafayette, Ind.; University of Michigan Medical School, Ann Arbor, 1890; fourth vice president, in 1916, member of the House of Delegates of the American Medical Association, 1922, 1923, 1924 and 1925, and a member of the reference committee on amendments to the Constitution and By-Laws, 1924 and 1925; past president and vice president of the Indiana State Medical Association; member of the American Academy of Ophthalmology and Oto-Laryngology, the American Laryngological, Rhinological and Otological Society, the Chicago Ophthalmological Society, Indiana Academy of Ophthalmology and Oto-Laryngology, and the American Bronchoscopic Society; a frequent contributor to medical journals; member of the board of education of Lafayette, 1916-1919; trustee of De Pauw University, 1898-1925; on the staffs of St. Elizabeth's, Wabash Valley and Lafayette Home hospitals, and the Indiana State Soldiers' Home; aged 59; died, March 18.

Robert Edward Lee Newberne ⊕ Washington, D. C.; Georgetown University School of Medicine, Washington, 1893; chief medical supervisor, U. S. Indian Service since 1918; past president of the Philippine Islands Board of Medical Examiners and the Philippine Islands Medical Association; also a dentist; member of the Idaho State Medical Association; formerly lecturer on nervous and mental diseases, legal medicine and medical jurisprudence, University of the Philippines College of Medicine and Surgery, and chief, Free Dispensary Division, Philippine General Hospital; aged 53; died, February 15, at Phoenix, Ariz., of cerebral hemorrhage.

Norman Kerr ⊕ Chicago; McGill University Faculty of Medicine, Montreal, Que., Canada, 1889; member of the Chicago Surgical Society; formerly professor of surgery, Chicago Policlinic and Hospital; on the staff of the Henrotin Memorial Hospital, and at one time on the staffs of the Children's Memorial and Cook County hospitals; served during the World War; aged 58; died, March 8, of heart disease.

Charles Ellery Denison ⊕ New York; Bellevue Hospital Medical College, New York, 1882; for thirty-seven years connected with the board of health; formerly on the staff of the Metropolitan Hospital; aged 68; died, March 3, of epidemic encephalitis contracted about five years ago.

William Archibald Monroe ⊕ Sanford, N. C.; University of Maryland School of Medicine, 1886; past president of the Seaboard Surgical Association; formerly member of the school board, and member of the state legislature; aged 62; died, February 26, of influenza.

Wendell Lee Latimer, Lowndesville, S. C.; Emory University School of Medicine, Atlanta, 1922; physician in charge of the Children's Hospital of the Pennsylvania State Sanatorium, South Mountain, Pa.; aged 31; died, February 19, at Montalto, Pa., of tuberculosis.

George Edgar Robison, Salt Lake City, Utah; College of Physicians and Surgeons, Baltimore, 1898; member of the Utah State Medical Association and the Radiological Society of North America; aged 56; died, February 10.

Lawrence Ingram, Richmond, Va.; Medical College of Virginia, Richmond, 1886; member of the Medical Society of Virginia; formerly president of the Manchester Board of Health; aged 61; died, February 19.

Needham Harvey Grady ⊕ Hot Springs National Park, Ark.; St. Louis College of Physicians and Surgeons, 1901; aged 73; died, February 24, at a hospital in St. Louis, of chronic nephritis and heart disease.

Charles Sebastian Fischer, Hastings-Upon-Hudson, N. Y.; Medical Department of Columbia College, New York, 1881; aged 79; died, January 28, at the Dobbs Ferry Hospital, Dobbs Ferry, of chronic nephritis.

Annie Hays, Clarksville, Ark.; Medical Department of the University of Illinois, Chicago, 1903; member of the Arkansas Medical Society; aged 63; died, February 24, at St. David's Hospital, Austin, Texas.

William Andrew Stevenson, Oil City, La.; University of Louisville School of Medicine, 1907; member of the Louisiana State Medical Society; aged 48; died, February 23, at a sanatorium in Shreveport.

Nimrod Polk Wood ⊕ Independence, Mo.; St. Louis Medical College, 1881; past president of the Jackson County Medical Society; formerly member of the board of education; aged 66; died, February 23.

William A. Fritsch, Evansville, Ind.; Medical College of Ohio, Cincinnati, 1881; Civil War veteran; formerly member of the city and state boards of health; aged 84; died, February 13, of pneumonia.

Stephen Leo O'Brien ⊕ Grand Rapids, Mich.; St. Louis University School of Medicine, 1913; on the staff of St. Mary's Hospital; aged 36; died, February 25, of exhaustion ending in acute psychosis.

Caroline L. Black, New York; New York Medical College and Hospital for Women, New York, 1878; member of the Medical Society of the State of New York; aged 78; died, February 24.

Robert Crichton Molison, Marshalltown, Iowa; State University of Iowa College of Medicine, Iowa City, 1897; member of the Iowa State Medical Society; aged 57; died, February 24.

Charles Dutton, Wakefield, Mass.; Medical School of Harvard University, Boston, 1863; member of the Massachusetts Medical Society; aged 86; died in February, of arteriosclerosis.

Fletcher S. Porter, Pickens, S. C.; College of Physicians and Surgeons, Baltimore, 1893; member of the South Carolina Medical Association; aged 56; died, February 24, of uremia.

John H. Harden, Cheraw, S. C.; University of Maryland School of Medicine, Baltimore, 1887; past president of the Chesterfield County Medical Society; aged 63; died, Dec. 31, 1925.

Charles Travis Trumbo, Seymour, Ind.; Indiana University School of Medicine, Indianapolis, 1922; member of the Indiana State Medical Association; aged 38; died, January 15.

Charles H. Craig, Webb City, Mo.; Missouri Medical College, St. Louis, 1887; formerly county and city physician; aged 68; died, February 19, of pneumonia, following influenza.

Carlton V. Hinman, Bellaire, Mich.; Hahnemann Medical College and Hospital, Chicago, 1882; formerly a druggist; aged 67; died, in February, at a hospital in Traverse City.

Francisco Alvarez Cintron, Jr., Detroit; Chicago College of Medicine and Surgery, 1918; aged 32; died, January 23, at the Grace Hospital, of hemorrhage due to duodenal ulcer.

William J. Hornbarger, Heber Springs, Ark.; University of Arkansas Medical Department, Little Rock, 1884; member of the Arkansas Medical Society; aged 66; died, February 26.

Charles H. Russell, Allegan, Mich.; University of Michigan Medical School, Ann Arbor, 1866; formerly city physician of Hastings; aged 83; died, in January, at Los Angeles.

Martin Goldberger, New York; University of Budapest, Hungary, 1888; aged 62; died, January 29, of cerebral hemorrhage, arteriosclerosis, myocarditis and nephritis.

William R. Cotty, Indianapolis; Eclectic Medical College of Indiana, Indianapolis, 1905; aged 58; died, Dec. 25, 1925, of cirrhosis of the liver and tuberculous enteritis.

Robert Pemberton Gerhart, Linden Hall, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1913; aged 38; died, January 31, of pulmonary tuberculosis.

Thomas Vincent Meacham, New Brunswick, N. J.; Bellevue Hospital Medical College, New York, 1891; aged 55; died, Dec. 27, 1925, of cerebral hemorrhage.

John Arthur Farrell ⊕ Monrovia, Calif.; Albany Medical College, 1910; member of the Medical Society of the State of New York; aged 39; died, February 14.

William Wilson Nelson, Birmingham, Iowa; Jefferson Medical College of Philadelphia, 1860; Civil War veteran; aged 91; died, February 27, of pneumonia.

John S. Beamensderfer, Manheim, Pa.; Jefferson Medical College of Philadelphia, 1883; aged 68; died, February 8, at the Lancaster (Pa.) General Hospital.

Charles Morgan Williams, Washington, N. J.; Jefferson Medical College of Philadelphia, 1897; also a druggist; aged 55; died, February 8, of pneumonia.

Austin D. Searles, Omaha; Medical Department of the Tulane University of Louisiana, New Orleans, 1894; aged 62; was shot and killed, February 18.

Emmet William Sullivan, Cleveland; University of Wooster Medical Department, Cleveland, 1878; aged 70; died, February 8, following a long illness.

William John Kinder, Aldrich, Mo.; University of the South Medical Department, Sewanee, 1897; aged 68; died, at Springfield, February 19.

Edwin Dickens Brantley, Riverton, Wyo.; Vanderbilt University Medical Department, Nashville, Tenn., 1887; aged 57; died in February.

Douglass Henry Smith ⊕ Bath, N. Y.; University of Buffalo Department of Medicine, 1904; aged 46; died, March 4, of heart disease.

Boyce O. Sally, Norway, S. C.; University of Georgia Medical Department, Augusta, 1887; aged 68; died, February 14, following a long illness.

James H. Milam, Dyersburg, Tenn.; Vanderbilt University Medical Department, Nashville, 1883; aged 70; died, in February, of pneumonia.

Daniel Bartholomew Sullivan ⊕ Flint, Mich.; Saginaw Valley (Mich.) Medical College, 1901; aged 50; died, February 18, of uremia.

Charlotte H. Woolley, Brooklyn; New York Medical College and Hospital for Women, New York, 1887; aged 75; died, February 26.

Pennington Kiteley ⊕ Detroit; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1922; aged 32; died, October, 1925.

Monroe Anderson, Dallas, Texas; University of Texas Department of Medicine, Galveston, 1888; aged 79; died, January 25.

John W. Whitehead, Bomer, Tenn. (licensed, Tennessee, 1889); for many years served as justice of the peace; died, January 25.

E. F. Conynghame, Underwood, Minn.; Minneapolis College of Physicians and Surgeons, 1886; aged 70; died in February.

Erick Soegaard, Fillmore, Calif.; Medical Department of the University of Illinois, Chicago, 1901; died, Dec. 5, 1925, at Ventura.

William Sanford Bigelow, Philipsburg, Pa.; New York Homeopathic Medical College, 1884; aged 72; died, February 19.

Walter Harris Dinsmore, Vancouver, B. C.; Medical School of Maine, Portland, 1880; aged 68; died, February, at Ottawa, Ont.

Albert Henry Tuttle ⊕ Cambridge, Mass.; Medical School of Harvard University, Boston, 1886; aged 64; died, March 1.

Owen Randolph Altman ⊕ Uniontown, Pa.; Jefferson Medical College of Philadelphia, 1901; aged 54; died, February 23.

Elsie Belle Merritt, Sanitarium, Calif.; American Medical Missionary College, Chicago, 1901; aged 50; died, February 19.

Susan P. Hammond Field, Boston; Boston University School of Medicine, 1880; aged 85; died, in December, 1925.

James E. Hyett, St. Marys, Kan.; Chicago Medical College, 1904; aged 55; died, February 26, at a hospital in Topeka.

John J. O'Brien, Chapman, Kan.; University of Louisville (Ky.) School of Medicine, 1890; aged 60; died, February 12.

Frederick Andrew Hess ⊕ Chicago; Rush Medical College, Chicago, 1873; aged 74; died, Dec. 25, 1925, of angina pectoris.

Homer T. Jackson, Verona, N. Y.; University of Buffalo Department of Medicine, 1881; aged 79; died in February.

Charles Albert McNeill, Indianapolis; Medical College of Indiana, Indianapolis, 1901; aged 50; died, February 19.

William Garrison Mizner, Oakland, Calif.; Cooper Medical College, San Francisco, 1889; aged 61; died in February.

Lewis K. Riley, Richmond, Calif.; Cooper Medical College, San Francisco, 1882; aged 84; died in January.

L. H. Ross, Ekin, Ind. (licensed, Indiana, 1897); aged 72; died, January 13, of cerebral hemorrhage.

Charles F. Howell, Riverside, Calif.; Keokuk Medical College, 1901; aged 59; died, Dec. 27, 1925.

John Bledsoe, Perry, Mo.; Missouri Medical College, St. Louis, 1867; aged 86; died, Dec. 27, 1925.

J. R. Echols, Lubbock, Texas (licensed, Texas, under the Act of 1907); died, February 8.

Correspondence

ELECTROLYSIS FOR SUPERFLUOUS HAIR

To the Editor:—May I add some comments to the inquiry appearing in The Journal, March 6, page 709, as to the proper outfit for the removal of superfluous hair by electrolysis, and the reply thereto, which does not quite cover two important points.

Electrolysis is based on the polarity action of the constant (galvanic) current. A fine, bulbous pointed platinum needle is inserted into the hair follicle, and connected to the negative pole (cathode) of a source of galvanic current: either a few dry cells connected into a battery, or the commercial "direct" current passing through a suitable resistance (rheostat) or the "alternating" current changed into a direct one by a motor generator. A gauze or sponge covered "indifferent" electrode, held by the patient, is connected to the positive pole (anode). A current of about 2 milliamperes, flowing for not more than twenty seconds, will produce sufficient caustic sodium hydroxide around the needle to destroy the lining of the hair follicle; at the same time hydrogen is liberated, which appears at the mouth of the follicle with a slight crackling noise.

It is perfectly evident why the instrument described by the inquirer produced nothing but a painful sensation: because it was a simple faradic coil, totally unsuited for what it was bought for. An induced (faradic) current, flowing with unequal alternation from one pole to the other, lasting only about 1⁄1000 second in either direction, is totally devoid of polarity action, but will produce a painful sensory stimulation. Such a current cannot be measured by any milliammeter.

As long as physicians will depend on the advice of salesmen for the selection and proper use of their electrotherapeutic apparatus, they and their patients will have to expect some very disappointing results.

Richard Kovacs, M.D., New York.

INSULIN IN EXCESSIVE VOMITING AND ECLAMPSIA

To the Editor:—The editorial comment in The Journal, February 20, entitled "Insulin in Excessive Vomiting and in Eclampsia" was of distinct interest to me. I am firmly convinced of the infinite possibilities for harm which exist in the advice that insulin be given to these patients. This is particularly true of the recommendations of Stander and Duncan, and while I believe that insulin should not be added to the glucose injections given for the vomiting of pregnancy, it seems to be positively dangerous in eclampsia.

Shortly after hearing my paper on "Hyperemesis Gravidarum," which was read at the last session of the American Medical Association at Atlantic City, Thalhimer wrote to me asking me to withhold its publication because he was certain that I was wrong in my advice against the addition of insulin to the glucose, and that he was right. I suggested that we let the Toronto group referee the matter, and sent all his reprints together with mine to Professor Macleod. He was away, but one of his assistants replied by saying that the opinion of the entire group was represented by an article to which he gave me the reference. This was in *Medicine* (3: 284 [Aug.] 1924) by W. R. Campbell and J. J. R. Macleod, and read as follows:

> The use of insulin in pernicious vomiting of pregnancy is, in our opinion, unnecessary. No case of postoperative acidosis has required it and it is difficult to see what purpose it could serve. Its use in nonketonic acidoses is even more questionable, and indeed one may be permitted to doubt its value in conditions other than those in which there is a distinct deficiency of endogenous insulin production. Those who insist on regarding all the ills the flesh is heir to as due to an indefinite endocrine

unbalance will do well to pause before applying insulin recklessly. Insulin is a powerful drug.

Thalhimer suggested the use of insulin in addition to glucose to control the condition [referring to Thalhimer's work in vomiting of pregnancy] in severe cases. It is difficult to appreciate the use of the drug in this type of case. In Toronto no case of uncomplicated pernicious vomiting sufficiently severe to warrant the trial of insulin in addition to fluids and glucose has been encountered in the last two years [referring here to the statement that "most of these cases can be controlled satisfactorily by administering glucose and an adequate amount of fluids"].

This article was sufficiently corroborative of my own opinions, so that I had no hesitancy about proceeding with the publication of my paper, and wrote Thalhimer accordingly. In fact, if I had known of this statement by these authorities in time to include it, additional force would thus have been given to my arguments.

Thalhimer's idea is so plausible, that because insulin with glucose is useful in diabetic acidosis so should it also be more valuable than glucose alone in similar conditions of nondiabetic origin, that it is being generally accepted without question. As a matter of fact, the theory of the treatment of the two states is fundamentally different in each instance. In the one, insulin is given on account of the diabetic lack of endogenous insulin with glucose to buffer it or protect the patient against the ill effects of insulin overdosage, whereas in toxemic acidosis of pregnancy the glucose is given for its liver-sparing effect and to restore the depleted liver, storage rather than combustion being the desired effect. This patient presumably has her usual endogenous insulin production unimpaired.

I think that Thalhimer's conclusions have been based on too few cases, and I have been unable to disregard the opinions on the action of insulin held by such authorities as Macleod and Campbell, especially when my own clinical experience coincides with this. Incidentally, Harding has just published (*Am. J. Obst. & Gynec.*, January) a similar conclusion; and, while he neglects, as has been the case more than once before, to refer to my published opinions on this, making no reference whatever to my last article, he agrees nevertheless that insulin should not be used.

I have been unable to detect any advantage from the addition of insulin to glucose in these cases; but, admitting that this does exist, it must still be granted that glucose alone is safe and effective, whereas, to quote the very fathers of insulin, "it is an exceedingly dangerous drug." It does not seem possible that a theoretical advantage which is slight clinically, if it even exists at all, offsets the distinct risk of this drug in nondiabetic acidosis. My definite opinion is that Thalhimer's reasoning is incorrect and that the addition of insulin is actually contraindicated. As I stated in my last article, if a hyperglycemia still persists after the administration of insulin, there is as much if not more reason for feeling that any beneficial effects of the treatment are due to the persisting excess of sugar over normal, as to the presence of some insulin, especially when it has been shown that glucose buffers and invalidates the action of insulin in a definite and constant ratio.

Thalhimer's chief argument in favor of insulin with glucose, as I understand it, is that the acidosis of these cases, as evidenced by acetone and diacetic acid in the urine, disappears more quickly by his method than by mine. If there is any difference, it is only a matter of a few hours at the best.

In the meantime, the note of warning which I tried to sound is being utterly ignored. Stander and Duncan of Baltimore report, as you point out, only six cases of eclampsia, with recovery in all (the last thirteen I have had recovered likewise, eight of them without insulin, but this proves nothing) and if they continue their tests they will find many eclamptic patients with low blood sugar (as in the table in my article on "Intravenous Injections of Glucose in Toxemia of Pregnancy" The Journal, Jan. 14, 1922, p. 92).

This much is a conceded fact in eclampsia: There is a tremendous expenditure of muscular energy during each convulsion, so that the patient may be compared to a man who has just run a strenuous race. In his case it is obvious that insulin should not be administered, because under the circumstances the risk to him would be far greater than if he had been eating and resting. Nor does he need insulin to help him "metabolize" the food or, better still, the sugar that should be given him after his race, because his endogenous insulin production is normal. Is it logical reasoning to treat what is nothing more than a variable symptom, so far as we know (hyperglycemia in eclampsia), by giving insulin when we do know that under comparable circumstances it is harmful and dangerous?

There are, it seems to me, boundless possibilities for harm in the recent publication of Stander and Duncan, as well as the general recommendation that insulin be used with glucose in all of these toxemias of pregnancy. Even Thalhimer agrees that it is still an unsettled question, and until it is settled there is an interval in which different workers are bound to be affected differently. Many will take it as settled and will push the use of insulin. Stander and Duncan were undoubtedly inspired by Thalhimer's work, and the line of reasoning which will follow on the part of innumerable physicians throughout the country will be, "If at Hopkins they believe that insulin is good for eclampsia, we will use it. If the patient does not improve promptly, we will give more, and more, and more until something happens."

Until the action of insulin is definitely understood and no longer a highly theoretical subject, the dangers and uncertainties of the drug should be pointed out in any discussion of its possible effect in pregnancy toxemias, or in other nondiabetic acidoses. Paul Titus, M.D., Pittsburgh.

VITAMIN POTENCY OF COD LIVER OIL

To the Editor:—I was interested in the query on the emulsification of cod liver oil and vitamins (The Journal, February 27, p. 645), and do not believe that general opinion agrees with your statements that emulsified cod liver oil is equal in vitamin potency to the unemulsified cod liver oil. This would hardly seem true if for no other reason than that emulsified oil contains not more than 50 per cent of cod liver oil and consequently there would be 50 per cent less vitamin in the same dose. Tests made on a number of samples of emulsified cod liver oil have shown that even when allowance is made for the difference in cod liver oil content, there is proportionately less vitamin A content in emulsified cod liver oil. This may be due to the fact that vitamin A in emulsified oil is less stable than in oils not emulsified. The antirachitic factor, or vitamin D, is apparently not as much affected in emulsion as is vitamin A.

John F. Anderson, M.D., New Brunswick, N. J.

"TRACHOMA AMONG THE NORTH AMERICAN INDIANS"

To the Editor:—In The Journal, February 6, appears my paper on this subject, followed by an elaborate discussion, the latter carrying the inference that the program outlined by the Department of the Interior through its Indian Bureau did not admit of practical application. The reports of the bureau since those remarks were made have shown accomplishments decidedly in advance of what were anticipated, and I take this opportunity to ask that you give publicity to the additional facts supplied to me by Assistant Commissioner Merritt. In the declining days of 1925, he informed me that in 1925 some 68,223 Indians were examined for trachoma, of whom 14,036 were found to have the disease. There were performed 8,455 operations, and 5,581 cases were treated otherwise. This represents only the trachoma work of the special physicians detailed for this purpose. All the Indian Bureau's physicians took part in the program, but their reports are not as yet available. Our contention that the Indian Bureau was the proper source from which to attack this problem seems to be justified by their results. The assumption that it is a problem belonging to the adjacent white communities is an acknowledgment of helplessness. The great bulk of cases that may be approached through the bureau points the way to the solution of the problem.

The need of hospitals well equipped with nurses must not be overlooked. L. Webster Fox, M.D., Philadelphia.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CURAY LIGHT APPLICATORS

To the Editor:—Will you kindly give me information about the Curay light applicator, which is claimed to supply a great amount of therapeutically active ultraviolet rays? Kindly omit name.

M.D., Connecticut.

To the Editor:—What is the accepted value of ultraviolet ray therapy in otolaryngology? The manufacturers of equipment are claiming a great deal, but I see very little in the literature by recognized leaders in the specialty. What is the status of the Curay light? Please use initials only.

R. W., Virginia.

To the Editor:—Kindly give your opinion on the effectiveness of a new instrument supposed to generate the ultraviolet ray. This instrument is made and sold by the Curay Company, 383 Boylston Street, Boston. How does it compare with Hanovia's alpine sun lamp?

E. G. LaRiviere, M.D., New Bedford, Mass.

Answer.—The source of light in a Curay lamp is an incandescent tungsten filament enclosed in a glass bulb. It is, as a matter of fact, an ordinary automobile headlight lamp. When used in the Curay apparatus, the lamp is operated on a higher current than its normal rating carries. The filament is therefore heated to a higher temperature than it is when used on an automobile. Accordingly, the average length of life of the lamp is greatly reduced.

The spectral energy distribution of the Curay lamp is that of a hot body radiator, and it is possible by means of Planck's equation to calculate the relative amount of emitted energy for any spectral region. It is well known that a radiator of this type emits most of its energy in the form of heat, but a small fraction of energy will be emitted as ultraviolet energy. Since the temperature of the filament is much below the temperature of the sun, the radiant energy which it emits will contain a smaller proportion of ultraviolet than the energy of sunlight.

Comparing the Curay lamp with the quartz mercury vapor arc lamp, the amount of ultraviolet rays emitted is insignificant. Planck's equation does not apply to the spectral energy distribution of the mercury vapor arc. The mercury vapor arc emits a relatively large fraction of its energy in the ultraviolet region of the spectrum.

It follows that the light emitted by the Curay lamp is not comparable with sunlight, for not only is the total amount of energy emitted less than that of sunlight, but a much smaller proportion of the energy emitted is in the form of ultraviolet rays.

Further, the Curay lamp has a glass bulb, which will strongly absorb the ultraviolet rays given off by the filament. The Curay Company supplies a photograph of a spectrum stated to be that of the Curay lamp. This photograph shows a spectrum extending as far as the ultraviolet—or perhaps farther—and then a spectrum of sunlight alleged to have been made by the same spectroscope and under similar conditions. The photograph gives no information as to the comparative intensities of the light in the ultraviolet region.

An exposure of the skin in actual contact with the quartz rod "applicator" supplied with the Curay lamp for one-half hour showed no ultraviolet erythema. An exposure of three and one-half minutes at a distance of 1 meter with a quartz mercury vapor lamp produced a marked erythema.

The Curay Company also supplies letters containing accounts of supposed "cures" of colds and bacterial infections, but these concern uncontrolled experiments. There seems to be no actual evidence that the lamp was a contributing factor in the "cure."

"COPPER ITCH"

To the Editor:—In a local copper works, several of the men who are employed there are suffering with a form of dermatitis which they call "copper itch." This form of dermatosis affects the arms and legs and is in the form of an itching, red and somewhat scaly eruption. The lesions tend to become chronic, with thickening of the epiderm and lichenification. Kindly report to me the most efficient form of therapy for these lesions; if you mention formulas, please give percentages and vehicles employed.

Elmer G. Shelley, M.D., North East, Pa.

Answer.—According to Kobert (Lehrbuch der Intoxikationen, Stuttgart, 1897) workers in copper may develop a greenish coloration of the skin, conjunctiva and hair and a red purpuric line on the gums. Winkler (Die Schädigungen der Haut durch Beruf und gewerbliche Arbeit, Leipzig **2**, nos. 1-4, 1925) has observed similar changes in ammunition workers and watch makers. In the latter, beneath the finger nails, he has sometimes found greenish deposits containing copper. Ravogli has described two cases of dermatitis occurring in workers in a brass foundry. In both these cases the skin of the legs was red and edematous, whereas that of the thighs was covered with an intensive pruritic papular eczema. After involution of the lesions there remained a dark brown pigmentation. In addition to these changes there were necrotic ulcers on the thighs in one of the cases. Teleky-Brezina (Internationale Uebersicht über Gewerbekrankheiten, 1921) saw a series of cases in girl metal workers who had developed a dermatitis on the finger tips from soldering brass objects. Herxheimer (*Dermat. Wchnschr.*, 1912, no. 1) described cases of dermatitis developing as a result of the action of weak sulphuric acid and oil on copper wire. Electrical workers sometimes become tattooed from contact with copper and brass.

The treatment should first of all consist in protecting the affected workers from contact with the copper. As the legs and arms are chiefly affected, it would be well to attempt by means of long sleeves and boots or puttees to protect the extremities from the copper dust. Thick denim overalls with sleeves bound tightly at the wrists and the trouser legs at the shoe tops might be of service if washed daily or several times weekly.

In the early acute stage one of the calamine lotions might be useful. Sometime later a simple soothing protective salve might be applied twice daily after cleansing of the parts with olive oil. In the old cases, radiotherapy consisting of ¼ or ½ skin unit doses every ten days to two weeks for three or four doses would probably be found very effective.

VARIATIONS IN WASSERMANN REACTION

To the Editor:—I am frequently receiving, on cases, Wassermann reports that vary greatly in two-day intervals and the cases are not receiving treatment. Examples of the variation are shown below:

Name	1/17/26	1/19/26	1/22/26	1/24/26
A. B..........	4 plus	2 plus	Negative	2 plus
A. G..........	4 plus	Negative	Plus-minus	Negative
A. S..........	1 plus	2 plus	4 plus	2 plus
R. S..........	4 plus	Negative	4 plus	

The laboratory informs me that this may be caused by the daily change in the blood of the patient or may be due to the minute dilutions of the various agents that enter into the Wassermann reaction. As these patients were not receiving any treatment during this time and, as far as I know, had never received any treatment, I do not consider this explanation satisfactory. These Wassermann tests are made as part of a routine examination, and when such a marked difference is noted in such a short interval, no treatment being given, it causes me to question the value of these reports. Would you be kind enough to advise me if this is a frequent occurrence in the Wassermann report? Also, your comments and any suggestions would be appreciated. Please omit my name and address.

M.D., New York.

Answer.—Such widespread discrepancies in Wassermann reports on apparently normal patients are not of frequent occurrence when the Wassermann test is properly performed. Formerly Craig cited such variations, but his work has not been substantiated by the majority of serologists.

Assuming that glassware is carefully cleaned, that uniform type and period of incubation is employed and that the same antigens and the same amboceptor are used from day to day, an explanation for such phenomena may be given under the following heads:

1. The complement obtained from guinea-pig serums varies in activity and its ability to be bound by syphilitic reagin. For that reason, pooled serum from at least three guinea-pigs aids in giving a more uniform product. The blood should be taken from pigs that have had no food the day of bleeding.

2. The older form of titrating complement gave too wide a variation between two units of one day and two units of the next.

Example: Originally 1:10 dilution of complement was used with 0.1 cc. intervals; today, 1:30 dilution of complement is used with 0.05 cc. intervals, therefore greatly refining the sensitivity of the test.

3. The amount of native amboceptor present in the patient's serum may vary somewhat at different intervals, making a factor in variation of the test when it is not absorbed as routine practice. This may show more particularly when shorter periods of incubation are used rather than in the case of the eighteen hour icebox fixation.

THE KROMAYER LAMP

To the Editor:—Please advise me regarding the efficiency, therapeutic dependability and ethics in the use of the Kromayer lamp, put out by *the Hanovia Chemical and Manufacturing Company, Newark, N. J.* Will these lamps do what is claimed for them therapeutically?

C. B. Greear, M.D., Honaker, Va.

Answer.—According to determinations made by the Hanovia Manufacturing Company and which correspond to those of the Bureau of Standards, the Kromayer lamp emits no radiation shorter than 2,000 angström units or longer than 14,000 angström units. Of the total radiation emitted, approximately 65 per cent falls in the ultraviolet field, and since the input of energy is 5 amperes, with a 70 volt drop across the burner, and since the radiation is confined to a small area, this lamp supplies as great intensity of ultraviolet per unit area as any commercial source designed for therapeutic use. The apparatus is dependable both mechanically and therapeutically.

Concerning the question, "Will these lamps do what is claimed for them therapeutically?" The Kromayer lamp does produce the ultraviolet rays, but no assertion can be made as to the therapeutic properties of the rays. The company has collected the reports of results of investigations with the lamp, and supplies the references.

GONOLIN—LUESAN

To the Editor:—I am enclosing a leaflet that I would like to ask you about. The product described is recommended by one of the oldest physicians' supply houses, and I have bought drugs of them, with perfect satisfaction, for years. It would seem that they would hesitate to sell something of doubtful value on account of their reputation, but I have not seen anything about this in the literature. Has it been passed by the Council?

L. C. Knight, M.D., Carthage, Ill.

Answer.—The leaflet sent deals with Gonolin and Luesan, neither of which has been passed by the Council. The two products are manufactured by the Horovitz Biochemic Laboratories Company, 67 Fulton Street, New York. A. S. Horovitz, president of the Horovitz Biochemic Laboratories Company, was referred to in connection with the asserted cancer cure "Autolysin" (The Journal, July 24, 1915, p. 336). Later he appears to have been largely responsible for the "Proteogens" which the Council on Pharmacy and Chemistry declared inadmissible to New and Nonofficial Remedies (Proteogens of the William S. Merrell Company, The Journal, July 12, 1918, p. 128). Subsequently the company, of which A. S. Horovitz is president, prepared a line of "Protein Substances" similar to the "Proteogens," each one being claimed to be more or less specific against a given disease or condition. The claims advanced for Gonolin and Luesan bear a striking similarity to those made for the discredited "Proteogens."

No product of the Harvey Company, the firm named as distributor on the circular sent by our correspondent, has been reported on by the Council on Pharmacy and Chemistry or by the A. M. A. Chemical Laboratory. However, this is one of the firms some of whose tablets were found deficient by the Connecticut Agricultural Experiment Station (Dependability of Dosage in Tablets, The Journal, July 27, 1918, p. 300; Nov. 2, 1918, p. 1520). In a subsequent report (March, 1925) of the Connecticut Agricultural Experiment Station, tablets of the Harvey Company were again reported as having undue variation in content.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Arkansas: Little Rock, May 11-12. Sec., Dr. J. W. Walker, Fayetteville. Homeo. Board, Little Rock, May 11. Sec., Dr. A. A. Pringle, Eureka Springs. Eclectic Board, Little Rock, May 11. Sec., Dr. Claude E. Laws, Fort Smith.

Colorado: Denver, April 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

District of Columbia: April 13. Sec., Dr. Edgar P. Copeland, 1801 Eye St., Washington, D. C.

Idaho: Boise, April 6. Commissioner of Law Enforcement, F. A. Jeter, Boise.

Illinois: Chicago, April 6-8. Supt. Regis., Mr. V. C. Michels, Springfield.

Minnesota: Minneapolis, April 6-8. Pres., Dr. Thomas Lowe, Pipestone.

Montana: Helena, April 6-8. Sec., Dr. S. A. Cooney, Helena.

National Board of Medical Examiners: Part I, June 21-23; Part II, June 22-23. All applications should be made on or before May 15. Sec., Dr. J. S. Rodman, 1600 Walnut Street, Philadelphia.

Nevada: Carson City, May 3. Sec., Dr. Simon L. Lee, Carson City.

New Mexico: Santa Fe, April 12-13. Sec., Dr. W. T. Joyner, Roswell.

Rhode Island: Providence, April 1-2. Sec., Dr. Byrum U. Richards, Providence.

Texas: Dallas, American Board of Otolaryngology, April 19. Sec., *Dr. W. H. Loeb, 1402 South Grand Blvd., St. Louis, Mo.*

Utah: Salt Lake City, April 6. Director, Mr. J. T. Hammond, Salt Lake City.

Ohio January Reciprocity Report

Dr. Henry M. Platter, secretary of the Ohio State Medical Board, reports that 29 candidates were licensed at the reciprocity meeting held at Columbus, Jan. 5, 1926. The following colleges were represented:

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Alabama School of Medicine	(1909)	Alabama
Denver and Gross College of Medicine	(1908)	Colorado
University of Colorado School of Medicine	(1910)	Colorado
George Washington University Medical School	(1925)	Dist. Colum.
Howard University School of Medicine	(1924, 2)	Dist. Colum. Maryland
Rush Medical College	(1924)	Illinois
Indiana University School of Medicine	(1918) (1924)	Indiana Illinois
State University of Iowa College of	[illegible]	Iowa
University of Louisville School of		Kentucky
Johns Hopkins University Medical	 (1921)	Virginia Maryland
University of Maryland School of Medicine	(1924)	Maryland
Creighton Medical College	(1922), 1924)	Nebraska
Columbia University College of Phys. & Surgs.	(1920)	New York
Jefferson Medical College of	[illegible]	Penna.
Temple University Department		Penna.
University of Pennsylvania Sc		New York
Meharry Medical College	(1916) Louisiana, (1922) Tennessee, (1924)	Kansas
Vanderbilt University School of Medicine	(1900)	California
University of Vermont College	[illegible]	Vermont
University of Virginia School		Virginia
Queen's University Faculty of		New York
University of Toronto Faculty of Medicine	(1904)	Penna.
University of Vienna, Austria	(1899)	*W.Virginia

* Verification of graduation not completed by the American Medical Association.

Alabama January Examination

Dr. Samuel W. Welch, chairman of the Alabama Board of Medical Examiners, reports the written examination held at Montgomery, Jan. 12, 1926. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Eleven candidates were examined, all of whom passed. Four were licensed by reciprocity and 1 by endorsement of his credentials. The following colleges were represented:

College PASSED	Year Grad.	Number Passed
Emory University School of Medicine	(1925)	2
Rush Medical College	(1925)	1
Tulane University of Louisiana School of Medicine	(1925)	1
University of Maryland School of Medicine	(1925)	1
Medical College of the State of South Carolina	(1925)	1
Meharry Medical College	[illegible]	1
University of Tenn		1
Dalhousie Universi		1
University of Toro		2

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Emory University School of Medicine	(1922)	Georgia
University of Louisville School of Medicine	(1921)	Kentucky
Jefferson Medical College	[illegible]	Penna.
Memphis Hospital Medic		Mississippi
University of Tennessee		Tennessee

College ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Rush Medical College	(1920)	N. B. M. Ex.

Book Notices

THE PRINCIPLES AND PRACTICE OF ENDOCRINE MEDICINE. By William Nathanial Berkeley, Ph.D., M.D., Recently Attending Physician at the Good Samaritan Dispensary, New York. Cloth. Price, $4.50. Pp. 368, with 60 illustrations. Philadelphia: Lea & Febiger, 1926.

The author of this volume on the glands of internal secretion has good acquaintance with the scientific facts, and, in most instances, presents them fairly and critically. Less critical discrimination is shown in the fields in which in earlier years he had personal contact with experimental work. The chapters on the thyroids, the suprarenals and the sex glands seem best. That on the pineal body is out of proportion in length to what is known concerning the rôle of this body in health and disease. Moreover, the author promotes the use of pineal extract, given by mouth to "backward" children for a long time to improve their mentality. The author seems unacquainted with the numerous reliable researches that show no direct influence of sympathetic nerves on the tonus of skeletal muscles (pp. 30, 31, 143). He states that thyroidectomy in rabbits is without effect (p. 42). This is contrary to fact. "Marine's statement that the immediate cause of goiter (simple) is lack of iodine can hardly be affirmed any more than it can be claimed that the immediate cause of malaria is lack of quinine" (p. 63).

Speaking of his own parathyroid preparation administered by mouth, he reports "remarkable benefits" in the majority of cases of paralysis agitans, despite the improbability of parathyroid origin of this malady, and the indication that the parathyroid hormone is ineffective by the oral route. Showing good judgment in other matters, when it comes to his own parathyroid preparation he accepts support by the ordinary testimonial route:

> The wife of another recent patient writes, we are greatly encouraged and hope he will be entirely well.

Again he says:

> Primary anterior lobe deficiencies of a "functional" or, at least, temporary and curable character, in boys and girls of the infantile type . . . a long series of New York public school children of this character have passed through my hands . . . in the last fifteen years. They receive whole pituitary (special formula prepared for me by a New York wholesaler) in suitable doses, and in the course of one or two years they grow remarkably (p. 188).

We have the right to ask how much the *control* group of similarly "temporary" infantile children grew in the same length of time.

> In the treatment of Froelich's disease the prolonged administration of whole pituitary gland preparation is the most rational procedure (p. 195).

This, despite the evidence of Evans, Smith and others that anterior lobe hormone is ineffective by the oral route.

On page 261 he states that he still "with satisfaction" uses in diabetes his own extract of the pancreas given by mouth, despite the evidence that insulin, except in enormous quantities, is ineffective by that route.

> Ligation or partial excision of the vas deferens causes a slow atrophy of the seminiferous cells (p. 271).

This has been disproved by Moore and others.

> A high degree of sexual ardor at the time of intercourse probably modifies favorably the growth if not the structure of the fertilized ovum (p. 295).

The evidence for this is cited from King Lear.

The author recommends pluriglandular therapies:

> In all cases of depressed metabolism, retarded sex development, and diminished growth, thyroid and anterior pituitary, and probably pineal will act synergically (p. 344).
>
> In frank cretinism it has seemed to me useful to supplement the action of the thyroid with whole pituitary, pineal, and the proper gonad. When the patient is carefully watched, pluriglandular therapy can at least do no harm (p. 345).

The last statement is probably true in regard to the patient's body, but what about the patient's pocketbook and the doctor's mind?

The same kind of therapy is recommended in so-called endocrine obesity:

> It may even be well to give thyroid, pituitary and ovarian (or testis) extract in one pill. . . . The food supply should be slowly diminished and this medication slowly increased until the patient loses 1.5 to 2 per cent of his body weight per month (p. 356).

Why reduce the food supply if obesity is of endocrine origin and curable by feeding endocrine mixtures? By speeding up metabolism, increasing nervous tension, and increasing the energy expenditure in muscular work, thyroid extract will by itself reduce body weight in obesity, even on a uniform intake of food.

The book is written from the standpoint of the clinical practitioner for physicians in active practice. But, curiously enough, the author shows greater erudition, critical judgment and common sense in the presentation of the experimental data than in the presentation of the clinical data. The volume is therefore a "mixed blessing" in this era of mushroom growths of monographic endocrinology.

PRAKTIKUM DER CHIRURGIE. Von Prof. Dr. O. Nordmann, Dirigierender Arzt am Auguste-Viktoria-Krankenhaus Berlin-Schöneberg. Third edition. Paper. Price, 33 marks. Pp. 796, with 511 illustrations. Berlin: Urban & Schwarzenberg, 1925.

In this edition, Nordmann's Praktikum of Surgery has been considerably altered and enlarged, bringing the material to date. The scheme remains essentially as before. The work is the outgrowth of a series of articles contributed to the *Medizinische Klinik* dealing with practical points in general and special surgery, and is designed to bridge the gap between the theoretical knowledge learned in medical school and the problems of actual practice. It is also designed to be of assistance to practitioners who do no active surgery, so that they may more readily understand surgical operations. The book begins with a general survey of operative procedure, including preparation of the operating room and instruments; patient and operator; anesthesia, general, regional and local; treatment of wounds and the after-care of wounds; postoperative complications; pyogenic infections of the various tissues; septic infection; osteomyelitis; chronic surgical infectious diseases; important disturbances of nutrition and enervation; diabetes in surgery; diagnosis and treatment of neoplasms; surgical diseases of the tendons, nerves and muscles; surgical diseases of joints and bones, and indications and technic of amputations, including a discussion of prostheses. The latter half of the book deals with special surgery, discussing the surgical diseases and operations regionally. The author states in his preface that he has not attempted to write a textbook but that he hopes to stimulate reference to textbooks. The field he attempts to cover is so large that of necessity the material is general and would be of no especial value except to a practitioner of limited training. In this country, where the first-class medical schools require, as a prerequisite to obtaining a degree, a hospital internship of at least one year in one of the larger hospitals, such a book has little place.

MODERN METHODS IN THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS. By R. C. Wingfield, M.B., M.R.C.P., Medical Superintendent, Brompton Hospital Sanatorium. Cloth. Price, $3. Pp. 134, with 27 illustrations. New York: Paul B. Hoeber, Inc., 1925.

The preface states that this little volume is primarily intended for medical students and men in the general practice of medicine. Keeping in mind, therefore, that this book was not intended for the specialist but for the man in general practice eager to learn what the specialist believes and teaches, we approach the book wholly from that angle. Certain statements are detrimental to the best interests of the general practitioner. In discussing the subject of tubercle bacilli in sputum, the author states that the administration of potassium iodide for a week will often produce sputum. This method is decried by most men simply because of the deleterious effect on the lung produced by the administration of potassium iodide. Men in practice in America will not agree with the statement that failure to find disease by physical examination justifies complete reliance on roentgen-ray technic. This statement is reiterated later in the book and gives the physician in pursuit of knowledge the impression that it is more or less a fallacy to learn physical diagnosis when diagnosis can so easily be made with the aid of the roentgen-ray machine. Treatment of tuberculosis by the somewhat antiquated method of the administration of potassium iodide and chlorine water is again revived. What has been said before relative to the administration of iodide for diagnosis cannot be too strongly emphasized when this method is advised for treatment. The chapters on pneumothorax and thoracoplasty are rather incomplete and leave much to the imagination. There are many things in the book that are commendable. The advice relative to sanatorium treatment, treatment with tuberculin, and many pages of roentgenograms help to improve the book. Yet one cannot but feel that this small volume on tuberculosis is just another book on a subject that has been well covered in the past; that it has added nothing new to our knowledge, and that it is not presented in a better way than in many other books now available.

Troubles de la fonction gastrique et syndromes associés chez les tuberculeux pulmonaires. Par le Docteur Pierre Marsal de la Faculté de médecine de Nancy. Travail de la clinique de M. le Professeur agrégé J. Parisot. Paper. Pp. 315, with illustrations. Paris: A. Maloine, 1925.

Dr. Marsal has made a careful study of gastric disturbances as they appear in the course of pulmonary tuberculosis. He presents an extensive review of the literature on the subject, which is enlightening in that it directs attention to the gropings of medical men in this field a few decades ago. The present work is based on observations made in sixty-five cases of gastric trouble complicating pulmonary tuberculosis. Marsal properly disapproves of forced feeding in the treatment of tuberculosis and, from the energy of his remarks, it would appear that the French physician is still prescribing a rich diet. The author quotes Daremberg, who said that the stomach is the laboratory of health for the consumptive. Marsal also says, "The better the stomach, the better the prognosis." Considerable space is given to radioscopic examination of the stomach; errors in motility and "deformities" are discussed, and methods of arriving at results are compared. The author concludes, on this point, that there is no more a radiologic tuberculous stomach than there is a clinical tuberculous stomach. The results of observations on deformity, motility, hypertonicity and spasms of the stomach are presented. Other subjects considered are the chemistry of the gastric secretions, the pathologic anatomy and the "emetic cough" so well known to those who treat the tuberculous. After a study of emetic cough, the author concludes that the best results are obtained by limitation of diet. Medicinal treatment is best effected by the use of belladonna or its alkaloids and full doses of bismuth subnitrate. The work represents a careful study of a subject not always sufficiently considered by physicians.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

The Principles and Practice of Medicine. Designed for the use of practitioners and students of medicine. Originally written by the late Sir William Osler, Bt., M.D., F.R.S. Revised by Thomas McCrae, M.D., Fellow of the Royal College of Physicians, London. Tenth edition. Cloth. Price, $7.50. Pp. 1233, with illustrations. New York: D. Appleton & Co., 1926.

The most recent edition of a medical classic, the new editor having retained everything possible from previous editions, except so far as new knowledge required elimination.

Lead Poisoning. By Joseph C. Aub, Lawrence T. Fairhall, A. S. Minot, and Paul Reznikoff. With a chapter on the prevalence of industrial lead poisoning in the United States. By Alice Hamilton, from the Department of Physiology, Harvard School of Public Health, and the Medical Clinic, Massachusetts General Hospital. Cloth. Price, $4. Pp. 265, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

Excellent monograph on a most widespread industrial disease.

Krankheiten und Hygiene der warmen Länder. Ein Leitfaden für die Praxis. Von Prof. Dr. Reinhold Ruge, Marine-Obergeneralarzt A.D. in Klotzsche bei Dresden; Prof. Dr. Peter Mühlens, Marine-Generalarzt A.D. und Abteilungs Vorsteher am Tropeninstitut in Hamburg, und Prof. Dr. Max Zur Verth, Marine-Generoberarzt A.D. und Oberregierungs-Medizinalrat in Hamburg. Second edition. Paper. Pp. 491, with 457 illustrations. Leipsic: Dr. Werner Klinkhardt, 1925.

Remarkably fine presentation of views of Hamburg school of tropical medicine.

Non-Surgical Treatment of Diseases of the Mouth, Throat, Nose, Ear and Eye. By Thomas H. Odeneal, M.D., Otologist, Rhinologist, Laryngologist and Ophthalmologist to the Beverly Hospital Corporation, Beverly, Massachusetts. Cloth. Price, $4 net. Pp. 428, with 4 illustrations. Philadelphia: P. Blakiston's Son & Co., 1926.

A book planned for general practitioners but rather uncritical in matters of therapy.

Historical, Legal, and Statistical Review of Eugenical Sterilization in the United States. Eugenical Sterilization: 1926. By Harry H. Laughlin, Eugenics Record Office, Cold Spring Harbor, Long Island, New York. Paper. Pp. 75. New Haven: American Eugenics Society, 1926.

Valuable compilation indicating trend of this type of preventive legislation.

Pancréatites chroniques avec ictère. Causes, diagnostic et traitement). Valeur et résultats eloignés de la cholécystogastrostomie. Par le Dr. Pierre Mallet-Guy, Interne lauréat des hôpitaux de Lyon. Préface de M. le Professeur Bérard. Paper. Price, 25 francs. Pp. 307, with illustrations. Paris: Masson & Cie, 1925.

Monograph of especial interest to roentgenologists and surgeons.

The Diagnosis and Treatment of Tuberculosis of the Hip. By G. R. Girdlestone, B.M., F.R.C.S., Hon. Surgeon, Wingfield Orthopaedic Hospital, Oxford. Cloth. Price, $2.50. Pp. 94, with 60 illustrations. New York: Oxford University Press, 1925.

Practical consideration with a view toward orthopedic conservation.

Handbuch der experimentellen Therapie Serum und Chemotherapie. Ein Handbuch für die ärztliche Praxis und Klinik. Herausgegeben von A. Wolff-Eisner. Second edition. Paper. Price, 35 marks. Pp. 790, with 69 illustrations. Munich: J. F. Lehmanns, 1926.

Second edition of a standard foreign system of biologic therapy.

Clinical Disorders of the Heart Beat. A Handbook for Practitioners and Students. By Sir Thomas Lewis, M.D., F.R.S., D.Sc., Consulting Physician to the Ministry of Pensions. Sixth edition. Cloth. Pp. 131, with 55 illustrations. London: Shaw & Sons, Ltd., 1925.

Sixth edition of a standard work by widely recognized authority.

The Pathology of Tumours. By E. H. Kettle, M.D., B.S., Professor of Pathology and Bacteriology, Welsh National School of Medicine, Cardiff. Second edition. Cloth. Price, $5. Pp. 285, with 159 illustrations. New York: Paul B. Hoeber, Inc., 1925.

A manual for students, dealing with general biology, general pathology and special pathology of tumors.

Lecciones sobre Radiologia y Fisioterapia. Por el Dr. Filiberto Rivero, Profesor Titular de la Asignatura de Radiologia y Fisioterapia de la Escuela de Medicina, Universidad de la Habana. Paper. Pp. 270. Havana, 1925.

A Cuban view of modern roentgenology and physical therapy.

The Mosquitoes of Egypt. By T. W. Kirkpatrick, B.A., F.E.S. (Senior Entomologist, Ministry of Agriculture, Egypt). Anti-Malaria Commission. Paper. Pp. 224, with illustrations. Cairo: Government Press, 1925.

Official report of interest to entomologists.

Physiological Papers. Dedicated to Professor August Krogh, Ph.D., LL.D. Paper. Pp. 375, with illustrations. Copenhagen: Levin & Munksgaard, 1926.

Festschrift in honor of the fiftieth birthday of a Nobel prize winner.

The Harveian Oration: On Some Developments of Harvey's Doctrine "Omne Vivum ex Ovo." By Sir Frederick Mott, K.B.E., M.D., LL.D., Consulting Physician, Charing Cross Hospital. Cloth. Pp. 36. London: John Bale, Sons & Danielsson, Ltd., 1925.

Brief essay on heredity in mental disease.

Diseases of the Eye. A Manual for the Practitioner. By Henry Kirkpatrick, M.B. Cloth. Pp. 132, with 28 illustrations. Calcutta: Butterworth & Co., 1925.

Ophthalmologic first aid for general practitioners, as practiced in India.

Medicolegal

Malpractice Case Against Chiropractor—Requirements

(Janssen v. Mulder (Mich.), 205 N. W. R. 159)

The Supreme Court of Michigan, in reversing a judgment entered on a verdict directed for the defendant, and at the same time granting a new trial, with costs to the plaintiff, says that the defendant was a chiropractor who had not complied with the law relative to the registration of drugless healers in Michigan. But, while a failure to comply with the registration statute might subject him to a criminal prosecution, such failure, coupled with a showing of treatment given, was not in itself sufficient on which to base a charge of malpractice. To maintain such an action, the plaintiff must show that the result complained of was due to negligence or unskilful treatment. While not registered, the defendant was a graduate of a chiropractic school. He assumed to treat human ailments only in accordance with the system taught in such school. This fact was well known to the plaintiff. The burden was therefore cast on her to show by competent evidence, not only that his treatment was injurious or not effective, but that the requisite care and skill was not exercised by him in administering it. It necessarily followed that such proof must be made by one engaged in treatment by similar methods to those employed by the defendant. With the merits of the several drugless systems of relieving human ailments, the courts have no concern.

This action was brought by the plaintiff, as administratrix, to recover the damages incident to the death of her daughter, aged about 7 years, the plaintiff charging malpractice by the defendant. The declaration alleged that the defendant knew, or should have known, that the child when brought to him was afflicted with diphtheria, and might fairly be said to charge malpractice by failure or neglect to ascertain the nature of her ailment before treating her. The defendant maintained an office to which people were invited to come for the relief of human ailments. He admitted that there were certain of such ailments which he did not profess to treat. It would seem to follow that he represented and held himself out to the public as possessing the necessary knowledge and skill to determine whether the ailment of the person brought to him was such a one as his treatment would probably relieve. If, as he testified, the class of practitioners to which he belonged does not assume to treat infectious, communicable diseases, they may not be relieved of civil responsibility if they neglect to exercise reasonable care and skill to ascertain whether the person seeking their services is so afflicted.

The defendant admitted that when the child was brought to him she had a fever and was suffering with a sore throat. While the plaintiff knew the nature of the treatment administered by the defendant, she did not know whether such treatment would be efficacious to relieve the ailment with which the child was afflicted. It was the duty of the defendant to use reasonable care and skill so to ascertain. While he insisted that he and others of his school of practice did not diagnose cases or treat diseases, and said that he knew nothing about germs or the symptoms of tonsillitis, quinsy or diphtheria, he did assume to relieve pain and suffering. The words used by him in defining that which he did, such as "palpate" and "adjust," did not change the nature of the act he assumed to perform. When he undertook to administer treatment to the child, he assumed the responsibility of determining whether the treatment he proposed to administer, and afterward did administer, was such as might reasonably have been expected to afford relief. So to determine, it was incumbent on him to use reasonable care and skill to ascertain whether the ailments were of the class to which his treatment applied. If not, it was his duty so to advise the plaintiff, in order that she might secure the services of one familiar with such ailments. His neglect to use reasonable care and skill to ascertain whether or not the child had diphtheria, if established to the satisfaction of the jury, would sustain the charge of malpractice made by the plaintiff. As bearing on the result to the child of such neglect, this court thinks that the plaintiff was entitled to show, if possible, that there is a customary and well known form of treatment used successfully by those of that particular profession who do profess to administer treatment to cure ailments of this nature, and that proper treatment by such a person would probably have afforded relief and saved the life of the child.

This court may take judicial notice that diphtheria is an infectious, communicable disease. It is so recognized by the laws of Michigan.

Malpractice Found in Case of Modeling Redressment

(Mortimer v. Keppler (N. J.), 130 Atl. R. 547)

The Supreme Court of New Jersey says that the plaintiff when 10 years old became afflicted with tuberculosis of both hips and was treated for two years at a hospital. The testimony indicated that in 1921 she was a healthy young woman, except that she had complete ankylosis of her left hip and partial ankylosis of the right, and a misplacement of the right leg. In December of that year she went to the defendant to have him secure her admission to a certain clinic. She told him about having been treated at the hospital for hip trouble. She gave her age as 18 years, although she was at the time about 24½ years old. That, however, appeared not to have been a deliberate misstatement, but owing to lack of knowledge and confusion as to her age. The defendant said that her condition was of a such a minor character as to make it unnecessary for her to go to the surgeon who conducted the clinic; that he could perform the operation himself. He directed her to have a roentgenogram made of her hips. After examining the roentgenogram, he said that he would manipulate the right leg, and would have to use a chisel and hammer on the left; that the operation was a minor one; that she would have to spend five days in the hospital, would be able to go back to work in two weeks, entirely cured and able to walk as well as he walked. He operated on her, Feb. 17, 1922. Immediately afterward she was in intense pain. Subsequently her right foot and lower leg became gangrened, and on April 1 her right leg was amputated at a point just above the ankle. The stump did not heal, and on November 1 there was a further amputation to a point just below the knee.

In one count the complaint charged negligence in an operation and treatment thereafter resulting in the necessity of an amputation of a portion of the plaintiff's right leg, and in another count charged negligence in the care and treatment of the plaintiff after such operation requiring a second amputation. Then, at the opening of the trial, the plaintiff was permitted to amend the complaint by adding a third count alleging an express contract to effect a cure and charging a breach thereof. The defendant answered, denying all negligence, and denying an express contract to effect a cure and any breach thereof. The plaintiff was given a verdict for $8,000 damages, which the defendant argued was against the weight of evidence because: (*a*) the plaintiff had misinformed him as to her age and as a result his diagnosis was based on the false assumption that the condition of her hips had endured for six and one-half years less than was the case; (*b*) the operation performed was a manipulation known as modeling redressment, and was not the operation of brisement forcé; (*c*) the plaster cast was not the cause of the circulatory disturbance; (*d*) the weight of the evidence was that there was some injury either to the femoral artery or to a large blood vessel; (*e*) the weight of the evidence was that there was no express contract to effect a cure. In deciding against setting aside the verdict, the court expresses the opinion that, as to the misstatement of age, there was ample evidence warranting a finding that the difference of six and one-half years was immaterial, while the court's consideration of the testimony led it to the conclusion that the verdict was not against the weight of the evidence.

It was urged that this language in the charge of the jury, "The operation being a so-called bloodless operation for the purpose of correcting an ankylosis or a partial ankylosis or stiffening of the right hip joint," was misleading because the operation was to obtain a better position of the right leg and contemplated the occurrence of ankylosis in the right hip. But, when the whole charge was read, the court does not think that reasonable men could have been misled. Again, it was contended that the following charge as to diagnosis was prejudicial because it left the jury to say whether the diagnosis was wrong:

> As to the matter of diagnosis—if you find that the defendant in this case did not use reasonable skill and diligence in diagnosing the plaintiff's ailment, and that this error in diagnosis led him to perform an operation which was improper under the circumstances, and that this operation resulted in an injury which brought on a gangrenous condition in the leg, necessitating the amputation of the lower portion, your verdict should be for the plaintiff.

There was a question as to whether the diagnosis was Perthe's disease, under which an operation could safely be performed, while, if tuberculosis was the original cause of the hip trouble, then such operation could not be safely performed. Under such circumstances the charge was proper.

Apparently, although not specifically, referring to an alleged attempt by the defendant to compromise the cause of action, the court says that, as to alleged incompetent evidence it thinks it was competent. It was not shown to have been made without prejudice, and was made before action commenced, and not at the solicitation of the plaintiff but of the defendant.

Vital Statistics Not Part of "Necessary Sanitation"

(Smith, Com'r, et al. v. State et al. (Ga.), 129 S. E. R. 542)

The Supreme Court of Georgia holds that, under a provision of the constitution of that state empowering the general assembly to delegate to any county the right to levy a tax "to provide for necessary sanitation," the legislature could not delegate to a county the right to levy a tax for the purpose of paying the fees of local registrars for services rendered under the vital statistics laws of the state, and that the statute authorizing their payment from the public funds of the county is unconstitutional and void. The court says that the duties these officials are required to discharge bear a very remote, if any, relation to the devising and applying of measures for preserving and promoting the public health, the removal or neutralization of elements injurious to health, and the practical application of sanitary science. Certainly the discharge of these duties is not necessary to the devising and applying of measures for preserving and promoting the public health. The gathering of these statistics may possibly be of some slight aid to investigators in devising methods of preserving the public health, but the court gravely doubts whether these statistics offer any help in discovering methods of preventing disease. Conceding, however, that they furnish some aid in research work looking to the discovery of means by which disease can be prevented, the court feels confident that the collection of these statistics is not such a means of providing necessary sanitation as was contemplated by the framers of the amendment to the constitution giving the power stated to provide for necessary sanitation. Clearly the purpose of the framers of the amendment, and of the people in adopting it, was to empower the legislature to authorize a county to levy a tax for the purpose of applying known and recognized methods of sanitation, such as vaccination to prevent smallpox, serums to prevent typhoid fever, diphtheria, scarlet fever, and the like, the purification of water, the destruction of the mosquito which produces yellow fever and malaria, and other well known methods of sanitation. This provision of the constitution must be given a plain, practical and commonsense construction.

Motions for a rehearing were made; but, after carefully considering them, the court does not think that a rehearing should be granted. It thinks that its decision in this case is sound. An additional reason for this is that there are county boards of health which "have full power and authority to adopt, enact, establish, and maintain all such rules and regulations, not inconsistent with the laws and constitution of this state and of the United States, as they may deem necessary and proper for protecting the health of their respective counties, and for preventing the introduction, generation, and spread of infectious and contagious diseases therein," except in incorporated cities or towns. These boards can "employ such officers, agents, or employees, and incur such expenses as they may deem necessary, which salaries, compensation, and expenses shall be paid out of the county treasury as are other county expenses." This county machinery is provided for necessary county sanitation. Then, there is a state board of health. The bureau of vital statistics is an adjunct or department of that board, which has full control of the registration of vital statistics. Under the constitutional provision involved, the court does not think that the legislature is authorized to provide for the payment of the expenses of a state department or state bureau out of county funds.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Dallas, April 19-23. Dr. Olin West, 535 N. Dearborn Street, Chicago, Secretary.

Alabama, Medical Association of the State of, Mobile, April 27-30. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Assistant Secretary.
American Association for the Study of Allergy, Dallas, April 20. Dr. A. H. Rowe, 242 Moss Avenue, Oakland, Calif., Secretary.
American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 10-12. Dr. H. G. Bugbee, 40 E. 41st Street, New York, Secretary.
American Association of Pathologists and Bacteriologists, Albany, New York, April 2-3. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.
American Child Health Association, Atlantic City, May 17-22. Dr. S. J. Crumbine, 370 7th Ave., New York City, Secretary.
American Gastro-Enterological Association, Atlantic City, May 3-4. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.
American Gynecological Society, Stockbridge, Mass., May 20-22. Dr. A. H. Curtis, 104 S. Michigan Ave., Chicago, Secretary.
American Orthopedic Association, Atlanta, April 26-28. Dr. De Forest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.
American Proctologic Society, Indianapolis, April 16-17. Dr. William A. Rolfe, 331 Beacon Street, Boston, Secretary.
American Roentgen Ray Society, Detroit, May 18-22. Dr. C. L. Martin, Baylor Hospital, Dallas, Texas, Secretary.
American Society of Clinical Investigation, Atlantic City, May 3. Dr. J. H. Austin, University of Pennsylvania, Philadelphia, Secretary.
American Society of Clinical Pathologists, Dallas, April 15-17. Dr. Ward T. Burdick, Metropolitan Building, Denver, Colo., Secretary.
American Urological Association, Boston, May 17-19. Dr. H. G. Hamer, 723 Hume-Mansur Building, Indianapolis, Ind., Secretary.
Arizona Medical Association, Globe, April 25-27. Dr. D. F. Harbridge, 407 Goodrich Building, Phoenix, Secretary.
Arkansas Medical Society, Hot Springs, May 18-20. Dr. W. R. Bathurst, 810 Boyle Building, Little Rock, Secretary.
Association of American Physicians, Atlantic City, May 4-5. Dr. F. W. Peabody, Boston City Hospital, Boston, Secretary.
California Medical Association, Oakland, April 26-May 1. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.
Conference of State and Provincial Health Authorities, Atlantic City, N. J., May 21-22. Dr. Richard M. Olin, State Commissioner of Health, Lansing, Mich., Secretary.
Connecticut State Medical Society, New Haven, May 19-20. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.
Florida Medical Association, Gainesville, May 3-5. Dr. Shaler Richardson, 111 W. Adams Street, Jacksonville, Secretary.
Georgia, Medical Association of, Albany, May 12-15. Dr. A. H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.
Hawaii Territorial Medical Association, Honolulu, April 25-28. Dr. F. J. Pinkerton, 46 Young Building, Honolulu, Secretary.
Illinois State Medical Society, Champaign, May 18-20. Dr. H. M. Camp, Lahl Building, Monmouth, Secretary.
Iowa State Medical Society, Des Moines, May 12-14. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.
Kansas Medical Society, Kansas City, May 4-6. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.
Louisiana State Medical Society, Monroe, April 15-17. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 27-29. Dr. J. A. Chatard, 1211 Cathedral Street, Baltimore, Secretary.
Medical Women's National Association, Dallas, April 18-19. Dr. Lena K. Sadler, 533 Diversey Parkway, Chicago, Secretary.
Minnesota State Medical Association, St. Paul, May 17-19. Dr. E. A. Meyerding, 11 W. Summit Avenue, St. Paul, Secretary.
Mississippi State Medical Association, Jackson, May 11-13. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.
Missouri State Medical Association, St. Louis, May 17-20. Dr. E. J. Goodwin, 901 Missouri Building, St. Louis, Secretary.
Nebraska State Medical Association, Omaha, May 11-13. Dr. R. B. Adams, McKinley Building, Lincoln, Secretary.
New Mexico Medical Society, Albuquerque, May 19-21. Dr. C. M. Yater, 310 N. Richardson Avenue, Roswell, Secretary.
New York, Medical Society of the State of, New York City, March 29-April 1. Dr. D. S. Dougherty, 17 W. 43d St., New York City, Sec'y.
Ohio State Medical Association, Toledo, May 11-13. Mr. Don K. Martin, 131 E. State Street, Columbus, Executive Secretary.
Oklahoma State Medical Association, Oklahoma City, May 18-20. Dr. C. A. Thompson, 609 Barnes Building, Muskogee, Secretary.
Oregon State Medical Society, Portland, April 1-2. Dr. F. D. Stricker, Medical Arts Building, Portland, Secretary.
South Carolina Medical Association, Sumter, April 6-8. Dr. E. A. Hines, Seneca, Secretary.
South Dakota State Medical Association, Aberdeen, May 19-20. Dr. John F. D. Cook, Langford, Secretary.
Tennessee State Medical Association, Memphis, May 11-13. Dr. J. F. Gallagher, Jackson Building, Nashville, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1924. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

31: 1-148 (Jan.) -1926

*Dried Human Milk. V. Use in Feeding of Premature Infants. P. W. Emerson and L. W. Smith, Boston.—p. 1.
*Bacteriologic Studies of Respiratory Passages. VI. Hemolytic Streptococci in Pharynx and Tonsils of Infants and Children. I. Pilot and I. H. Tumpeer, Chicago.—p. 22.
*Enlargement of Spleen in Measles. A. Bleyer, St. Louis.—p. 26.
*Congenital Cardiac Hypertrophy: Case. A. J. Scott, Jr., and A. H. Zeiler, Los Angeles.—p. 31.
*Calcification of Subcutaneous Tissue in Child (Calcinosis Universalis): Case. G. Wilens and J. Derby, Boston.—p. 34.
*Variations in Antiscorbutic Properties of Dry Milk. G. C. Supplee and O. D. Dow, Bainbridge, N. Y.—p. 41.
*Bronchial Asthma in Children and Young Infants. A. H. Rowe, Oakland, Calif.—p. 51.
*Is Development of Carpal Centers Delayed in Rickets? L. H. Goldberger, New York, and J. Mellion, New Haven, Conn.—p. 58.
*Blood Chemical Findings During Convulsions in Acute Hemorrhagic Nephritis. K. M. Metcalf and M. Moriarty, Boston.—p. 65.
*Diphtheria Following Tonsillectomy. A. Zingher, New York.—p. 72.
*Wheal Formation in Infants and Children. I. J. D. Pilcher, Cleveland.—p. 77.
*Id. II. J. D. Pilcher, Cleveland.—p. 96.

Feeding Dried Human Milk.—A series of thirteen cases is presented by Emerson and Smith in which infants were fed dried breast milk over periods of time ranging from four to 137 days. The evidence seems to prove that dried breast milk can be utilized as a substitute for fresh breast milk, and that it is particularly indicated in the case of premature infants and those with severe intestinal intoxications, for whom fresh breast milk is ordinarily indicated but is not available. The authors believe that by very slight further modification in the method of drying, a still better product can be obtained, which would be available at all times for indicated cases.

Hemolytic Streptococci in Tonsils.—Hemolytic streptococci were recovered by Pilot and Tumpeer in large numbers from the excised tonsils of twenty-five of twenty-eight children, aged from 2 to 6 years, and from the adenoids, in six of eleven children. From swab cultures of comparatively normal throats of seventy-five children, aged from 6 weeks to 10 years, hemolytic streptococci were found in sparse numbers in thirty-six. It is evident that these organisms reside normally in the tonsils and adenoids, and that from these sources the streptococcal complication in the course of other diseases commonly arises.

Enlarged Spleen in Measles.—Observations concerning enlargement of the spleen during the eruptive stage of measles were made by Bleyer in 396 cases. Of forty-seven patients who were examined the day before the rash appeared, the spleen was enlarged in 2 per cent; of fifty-eight patients examined on the first day of the rash, 24 per cent had enlarged spleen and of eighty examined on the second day, the spleen was palpable in 43 per cent. Enlarged spleens were found in 56 per cent of sixty-two patients examined on the third day and in 52 per cent of forty-nine patients examined on the fourth day of the eruption. This enlargement of the spleen was coincidental with the eruptive stage of this disease, both as to appearance and disappearance, the greatest enlargement both as to frequency and size being noted on the third and fourth days of the rash. The severity of an attack did not affect the incidence of enlargement of the spleen.

Congenital Cardiac Hypertrophy.—A baby, aged 5 weeks, was seen by Scott and Zeiler because of gastro-intestinal disturbance, dyspnea and cyanosis. The bony thorax was prominent anteriorly, with no pathologic changes in the lungs, and the heart showed no apparent abnormality. The lower edge of the liver was down to the level of the umbilicus. A tentative diagnosis was made of a congenital heart defect. The roentgenogram showed that the heart was enlarged to the right. The baby died two weeks later. At necropsy, the heart was found to weigh 55.4 Gm., and was 6.5 cm. (2½ inches) wide. There was marked hypertrophy of the ventricular musculature. The ductus botalli and foramen ovale were closed, and all the valves were competent. The left auricle was normal in size but the right was dilated. There was no causation to explain this condition other than that it was congenital.

Calcification of Subcutaneous Tissue.—A case of multiple calcifications of the subcutaneous connective tissue and fat, apparently unassociated with fat necrosis, is reported by Wilens and Derby. There were no indications suggesting the initial lesion. There was present a variable degree of obliterating endarteritis.

Antiscorbutic Properties of Dry Milk.—Experiments are recorded by Supplee and Dow which show that as high as 80 cc. of reconstituted spray process whole milk powder per day is sufficient to protect guinea-pigs from scurvy, when either of two common basal scorbutic rations are used. The data also show that dry milk made by the Just roller process, and stored in an atmosphere of air at room temperature for two years, has an antiscorbutic potency substantially equivalent to that reported for fresh milk produced at the same time of the year. It is concluded that neither the differences in the scorbutic basal ration nor the period of storage serves as an adequate explanation for the low antiscorbutic values reported for certain milk powders.

Bronchial Asthma in Children.—Seventy-seven cases of bronchial asthma occurring in patients under 10 years of age, and thirty-three in patients between the ages of 10 and 20, are reported by Rowe. Of these, 19.1 per cent gave a history of allergy on both sides of the family, and 51.8 per cent gave a unilateral family history of allergy. Ninety-five per cent gave one or more positive skin reactions; 71.07 per cent reacted to proteins of animal emanations. Reactions to feathers were obtained in 58.2 per cent, and pollen reactions in 40 per cent. The importance of food as a cause for asthma is emphasized by the fact that 53.6 per cent gave positive reactions. Wheat and egg proteins gave reactions in 22 and 21 per cent, respectively. Vegetables gave reactions in 31 per cent. The treatment was based on the protein sensitization revealed by skin tests and history. The treatment has given complete or nearly complete relief in 68.3 per cent; marked relief in 22.7 per cent; slight relief in 6.3 per cent, and no relief in 2.7 per cent. The relief obtained has necessitated continued adherence to diet, or to freedom from animal emanation and organic dust contacts, or to desensitization to pollens or other proteins, or finally to combinations of these factors.

Development of Carpal Centers in Rickets.—Forty infants with rickets and twenty-two without rickets were studied by Goldberger and Mellion with reference to the development of carpal centers. The evidence shows that the appearance of carpal centers in infants with rickets was later than in infants free from rickets. The development of second or subsequent carpal centers in infants with rickets was delayed, compared to their appearance when rickets was absent. The development of more than two carpal centers during the first six months of life was retarded in rachitic infants compared to nonrachitic infants. Although delayed, new calcification centers appeared during the active stages of rickets. Antirachitic treatment (cod liver oil, ultraviolet rays or yolk of egg) rarely brought about a development of carpal centers within a period of two months.

Blood Chemical Changes During Convulsions.—The principal features in the case reported by Metcalf and Moriarty were the changes which the convulsions induced in the sugar and in the alkali reserve, as well as the absence of marked changes in the other blood constituents investigated.

Diphtheria Following Tonsillectomy.—Zingher holds that it is strongly advisable that preliminary nose and throat cultures for diphtheria bacilli be taken as a routine before such operations as tonsillectomy and adenoidectomy. If the cultures are positive, a prophylactic dose of 1,500 units of diphtheria antitoxin should be injected, unless the patient has already been tested with the Schick test and shows a definite negative reaction or a negative pseudoreaction.

Wheal Formation in Children.—A study of wheal formation by the intradermal injection of codeine solution was made by Pilcher in a series of normal and sick infants and children. Wheal formation was lessened in all cases of edema studied regardless of the cause; namely, in nephritis, cardiac decompensation, leukemia, malnutrition from starch feeding, injury and in the local skin edema of serum urticarial wheals and saline infusions. Wheal formation is also lessened in certain ill defined skin infiltrations; namely, in cretinism and myxedema and in sclerema and scleredema. In nephritis without edema and in valvular and congenital heart disease without edema, even with considerable decompensation, the wheal formation is normal. In myocardial degeneration and in certain cases of severe prostration, wheal formation is diminished. A normal wheal reaction indicates an efficient circulation at the site of the wheal.

Wheal Formation in Rickets and Spasmophilia.—Pilcher states that low serum calcium and phosphorus, down to half the normal quantity, in infants with rickets or spasmophilia have no influence on the permeability of the minute vessels of the skin, as measured by the codeine wheal reaction.

American Journal of Public Health, Albany, N. Y.

16: 1-68 (Jan.) 1926

Tendencies in Public Health Administration. C. V. Craster, Newark, N. J.—p. 1.
Engineering Aspects of Oyster Pollution. R. E. Tarbett, Washington, D. C.—p. 5.
*Necessity for Changes in Ventilation Laws of United States. L. Greenburg, New Haven, Conn.—p. 13.
Rôle of Child Guidance Clinic in Mental Hygiene Movement. R. P. Truitt, New York.—p. 22.
Aids in Securing Better Registration. A. T. Davis, Dover, Del.—p. 25.
Improvements in Child Hygiene. C. H. Keene, Buffalo.—p. 29.
*Mediums for Estimation of Bacteria in Milk. J. F. Norton and M. Seymour, Chicago.—p. 35.
Year's Work in Food and Drug Field. F. C. Blanck, Washington, D. C.—p. 45.

Window Ventilation Better than Fan Ventilation.—Greenburg insists that the fan system developed on the basis of an erroneous knowledge of the need for ventilation should be abandoned (as applied to schoolrooms and auditoriums of less than seventy-five to 100 persons capacity), because it fails to produce satisfactory atmospheric conditions; because it leads to a high incidence of respiratory disease; because its first cost is excessive, and because its operation is poor and wasteful of heat. It should be superseded by the window system of ventilation with gravity exhaust which, comparatively, is highly efficient and inexpensive.

Mediums for Estimating Bacteria in Milk.—Norton and Seymour analyzed the bacterial counts obtained on five mediums from a series of samples of raw and pasteurized milk, particularly as regards uniformity of results. Veal infusion medium ranked first with meat extract agar and two dehydrated mediums second. Ayers' milk powder medium was less satisfactory. The results lead to the conclusion that standard meat extract agar, dehydrated nutrient agar and dehydrated peptonized milk agar are equally satisfactory.

American Journal of Obstetrics and Gynecology, St. Louis

10: 1-146 (Jan.) 1926

*Use of Fluids in Treatment of Hyperemesis Gravidarum. V. J. Harding and H. B. Van Wyck, Toronto, Ont.—p. 1.
*Multiple Fetal Malformation. R. G. Mills and B. E. Walpert, Chicago.—p. 10.
Application of Forceps to Transverse Head for Delivery of Persistent Occipitoposterior Cases. H. C. Williamson, New York.—p. 37.
Heart Output During Pregnancy. H. J. Stander, E. E. Duncan and W. E. Sisson, Baltimore.—p. 44.
Sterility Fertility Studies in Animals: Bearing on Human Problems. R. L. Dickinson, New York.—p. 51.
*Investigation into Causation of Onset of Labor by Parabiosis During Pregnancy. I. Kross, New York.—p. 64.
*Etiology and Epidemiology of Impetigo Contagiosa Neonatorum. D. L. Belding, Boston.—p. 70.
Elimination of Second Stage of Labor in Breech Presentations. F. C. Irving and T. R. Goethals, Boston.—p. 80.
Postoperative Parotitis: Nine Cases. T. C. Peightal, New York.—p. 88.
Obstetric Mortality in Lying-in Hospital in 1924. M. Rosensohn, New York.—p. 96.
Congenital Hernia at Linea Alba. H. R. Charlton, Bronxville, N. Y.—p. 103.
Relation of Blood Sedimentation to Pelvic Disorders. T. H. Cherry, New York.—p. 105.
Case of Decidual Reaction in Adenomyoma of Rectovaginal Septum. R. J. White, Fort Worth, Texas.—p. 112.
Case of Separation of Dorsal Vertebrae in Podalic Version and Extraction. W. R. Barney, Cleveland.—p. 116.

Treatment of Hyperemesis Gravidarum.—So important do Harding and Van Wyck consider the factor of dehydration in vomiting of pregnancy, that any such patient admitted to the wards of the Toronto General Hospital is at once treated, as a matter of routine, with 1,000 cc. of 5 per cent glucose solution in 1 per cent saline solution, given intravenously each day until diuresis is obtained. At the same time, rectal enemas of 200 cc. of 10 per cent glucose in physiologic sodium chloride solution are given three times daily, and at bedtime from 30 to 60 grains (1.95 to 3.9 Gm.) of sodium bromide are given in each enema for the first day or so. No attempt is made to feed solids by mouth, but fluids are urged even if the patient is vomiting freely, and she is encouraged and allowed to drink any liquid she may fancy, except tea, coffee, milk or cocoa. This treatment usually results, within three or four days, in such marked improvement that the patient is able to take food. It is not continued for a period longer than six days without effecting an appreciable clinical improvement.

Multiple Fetal Malformations.—A case illustrating multiple fetal malformations is reported by Mills and Walpert, which is said not to be duplicated in the literature. The chief points of interest are as follows: (*a*) Normal apparently full-term development of the upper half of the body; (*b*) absence of most of the anterior abdominal wall, its place being taken by a membrana reuniens; (*c*) abrupt termination of a relatively straight and normal spinal column at the lumbosacral junction with acute angulation, and lateral displacement of the deformed sacrum; (*d*) backward displacement and deformity of the pelvic girdle (pelvis inversa); (*e*) partial rotation and backward displacement of the buttocks, with extension of the legs up toward the occiput; (*f*) absence of one of certain paired organs and the rudimentary development of others, not all on the same side of the body; (*g*) hypoplasia of the thoracic duct; (*h*) practically complete development of the female generative tract from one müllerian duct, the other being rudimentary and widely separated; (*i*) complete development of the urinary system except for one kidney and its ureter; (*j*) persistent cloaca (failure of development of the urorectal septum); (*k*) association of a major form of fetal anomaly with placenta praevia centralis. A theory is proposed to account for many or all of the anomalies, based on an assumed congenital ascites due to a disturbance of fluid distribution occurring during growth. The incomplete development of the thoracic duct is possibly a contributing factor. An extensive bibliography gives all references to similar major malformations which could be found in the literature, together with a brief summary of the principal findings, when not mentioned in the title, and a letter indicating the library in which each has been found.

Cause of Onset of Labor.—The results of Kross' experiments show that in rats, at least, no labor inducing substances are produced during labor that have any appreciable influence on the course of pregnancy in the partner of a parabiotic pregnant pair.

Etiology of Impetigo Contagiosa Neonatorum.—Belding's observations corroborate the opinion of the previous investigators who find that a strain of *Staphylococcus aureus* of special virulence is the etiologic agent in impetigo contagiosa neonatorum. The cultural characteristics of the impetigo staphylococcus are practically the same as those of the ordinary staphylococcus.

American Journal of Tropical Medicine, Baltimore

6: 1-114 (Jan.) 1926

*Protozoiasis Occurring in Temperate Zone Residents. F. Smithies, Chicago.—p. 1.
*Effect of Temperature on Protozoan and Metazoan Parasites: Intra-Intestinal Thermal Therapy in Parasitic and Other Affections of Intestine. D. de Rivas, Philadelphia.—p. 47.
*Trichomonas Buccalis. M. J. Hogue, Philadelphia.—p. 75.
Ascariasis in Preventive Medicine. E. B. Cram, Washington, D. C.—p. 91.

Protozoiasis in Temperate Zone.—Attention is directed by Smithies to the frequency with which protozoa may be demonstrated in the stools of patients who reside in the temperate zone. In the series studied (3,780 patients), one or more species occurred in 7 per cent of patients who presented themselves for the relief of digestive disorders.

Intra-Intestinal Thermal Therapy in Intestinal Affections.—The application of intra-intestinal thermal therapy by means of colonic lavage with salt solution at from 45 to 47 C., de Rivas says, has proved an efficient and safe procedure in the treatment of amebic dysentery and the removal of seat worms and other parasites of the large intestine. The application of the method in the form of duodenal or intra-intestinal lavage by means of the duodenal tube is likewise an efficient and safe procedure for the treatment of *Giardia* (*Lamblia*) infection and the removal of tapeworms, hookworms and other parasites of the same intestine. The method may be used also for the rapid elimination of acute poisoning with mercuric chloride, botulinus, mushrooms and trichiniasis. The practicability of the method and the principle on which it is based suggest its application in the treatment of sprue, intestinal auto-intoxication, the direct implantation of any desirable bacterial flora in the intestine and the intra-intestinal administration of drugs.

Trichomonas Buccalis.—*Trichomonas buccalis* has been found by Hogue only in the mouths of persons suffering with pyorrhea, acute gingivitis or abscessed teeth.

Archives of Internal Medicine, Chicago

36: 751-896 (Dec. 15) 1925

*Antigenic Property of Pollens. H. L. Huber and K. K. Koessler, Chicago.—p. 751.
*Effect on Paramecia of Blood Serums, Especially from Patients with Carcinoma. G. A. Daland, Chicago.—p. 762.
*Diabetes: Electrocardiographic Studies. E. P. Blitzsten and D. L. Schram, Chicago.—p. 770.
*Nonspecific Desensitization Therapy in Allergic Asthma. Eosinophilic Index as Guide to Intramuscular Injection of Venom Protein. R. H. Spangler, Philadelphia.—p. 779.
*Nature of So-Called Sino-Auricular Block. W. H. Resnik, Baltimore.—p. 788.
*Identification of Three Types of Mononuclear Phagocytes in Peripheral Blood. F. A. McJunkin, St. Louis.—p. 799.
*Etiology of Chronic Ulcerative Colitis. J. A. Bargen and A. H. Logan, Rochester, Minn.—p. 818.
*Spindle-Cell Sarcoma of Heart. C. S. Beck and H. S. Thatcher, Cleveland.—p. 830.
*Quinidine in Treatment of Auricular Fibrillation, Established, Paroxysmal and Transient. F. J. Smith and N. E. Clark, Detroit.—p. 838.
*Value of Icterus Index in Differentiating Anemia. A. V. St. George and A. L. Brown, New York.—p. 847.
*Concentration of Blood and of Urine in Diabetic Toxemia. H. A. Bulger and J. P. Peters, New Haven, Conn.—p. 857.
*Diameter of Red Blood Cells in Differentiation of Anemias. L. C. Grosh and J. L. Stifel, Toledo, Ohio.—p. 874.
*Renal Function in Persons Having Only One Kidney. N. B. Foster, New York.—p. 884.
*Hyperglycemia. I. Relative Blood Volumes in Diabetes Mellitus. L. Foshay, Cleveland.—p. 889.

Antigenic Properties of Pollens.—Huber and Koessler demonstrated the antigenic property of pollens. While not itself proving the anaphylactic nature of pollen disease, this finding is believed to be highly significant for this interpretation.

Blood Serum from Carcinoma.—No specific substance was found by Daland in the blood serum of patients with carcinoma, which affected the rate of vesicle formation in paramecia in any way different from normal serum.

Electrocardiogram in Diabetes.—Studies were undertaken by Blitzsten and Schram to see in what way electrocardiographic tracings of diabetic patients differ from those of normal persons of the same age and sex. Notching of the main deflection of the electrocardiographic curves occurred more frequently in curves of diabetic patients than in curves of controls. Changes in the blood sugar concentration were associated with changes in the main deflections of the electrocardiographic tracings. Increasing the amount of blood sugar in dogs by etherization or by glucose injections caused an increase in the height of the Q-R-S wave, while a decrease in the amount of blood sugar produced a decrease in the amplitude of the Q-R-S wave.

Nonspecific Desensitization Therapy in Allergic Asthma.—Spangler cites a case which shows the clinical results of nonspecific protein desensitization following repeated intramuscular injections of venom protein (crotalin) solution in a case of bronchial asthma and hay-fever. The eosinophilic index seems to indicate that a state of antianaphylaxis has been maintained and that the patient has remained, as Spangler terms it, nonspecifically desensitized. The patient has remained entirely free from all asthmatic symptoms for eleven months.

Sino-Auricular Block.—Resnik would drop this term for "sino-auricular standstill," which is a more accurate expression of the condition as it is seen clinically.

Mononuclear Phagocytes in Peripheral Blood.—Three kinds of mononuclear phagocytes have been demonstrated by McJunkin in the circulating blood, two of which are found under normal conditions: (1) monocytes, mononuclear benzidine-positive phagocytes reacting to neutral red by the method of supravital staining; (2) lymphendotheliocytes, benzidine-negative mononuclear phagocytes that by the method of supravital staining react to neutral red (sometimes with arrangement of the dye granules in the form of a rosette); (3) hemendotheliocytes, benzidine-negative mononuclear phagocytes not reacting by the method of supravital staining to neutral red or reacting slightly to neutral red with the appearance of irregular dye cytoplasmic granules. The first two occur in human blood.

Etiology of Chronic Ulcerative Colitis.—A gram-positive diplococcus has been isolated by Bargen and Logan in 80 per cent of cases of chronic ulcerative colitis. This organism has been obtained in pure culture from the early lesions, in an acute exacerbation of the disease, from the depths of chronic ulcers, and occasionally from distant foci (tooth abscess or tonsils) elsewhere in the body. By the intravenous injection of the organism, lesions like those in human beings have been produced in rabbits and dogs, the lesions in the latter approaching the chronic stage of the disease in humans. From these studies, it would seem that the hope of control of this disease lies in (1) removal of the distant foci of infection; (2) immunization in some form against the causative organisms; (3) local and topical application and irrigation; (4) the empiric use of drugs, such as tincture of iodine; (5) the administration of some absorbent like kaolin by mouth, and (6) a nonirritating yet general diet.

Spindle-Cell Sarcoma of Heart.—In the case reported by Beck and Thatcher the clinical diagnosis of sarcomatosis was made by the presence of disseminated sarcoma nodules. Involvement of the heart with sarcoma was suggested by the subnormal blood pressure, rapid pulse rate, systolic murmur and an abnormal contour of the heart as seen in the roentgenogram. This was considered as a possibility, but a definite diagnosis of sarcoma, primary in the heart, was not made clinically. The tumor was situated in the wall of the left auricle. Numerous metastases were present in the muscles and subcutaneous tissues of the buttocks, scrotum, legs, arm and chest. Thirty-five cases of sarcoma primary in the heart are now on record.

Quinidine Therapy of Auricular Fibrillation.—Smith and Clark have had success in 61 per cent of their cases in the production of normal rhythm from auricular fibrillation by a one day plan of quinidine administration. One death occurred. The chief value of quinidine was found in the treatment of frequent paroxysmal auricular fibrillation when not associated with hyperthyroidism. The authors point out that it has many dangers and an extremely limited field of usefulness in the established case, and real benefit of any considerable duration is derived in only a small proportion of these.

Value of Icterus Index in Differentiating Anemia.—St. George and Brown have found that the icterus index, rationally interpreted by a modification of the Meulengracht method, is a distinct clinical aid in the differentiation of the anemias. Uncomplicated cases of hemolytic anemia have an index above the normal range. Uncomplicated cases of secondary anemia have a low index, generally below the normal range. Uncomplicated cases of pernicious anemia and the severe anemia simulating it in cases of carcinoma may readily be differentiated by the icterus index, in that the former has an index consistently above the normal (from 8 to 12.5) and the latter below the normal range. It is suggested that the icterus index may be used to follow the course of pernicious anemia and to determine, before the blood count falls, when it is advisable to give a transfusion, as well as when the patient is likely to improve spontaneously.

Concentration of Blood and Urine in Diabetic Toxemia.—In severe diabetic toxemia with marked dehydration of the blood, Bulger and Peters assert that the concentration of nitrogen and chloride in the urine is extremely low. With adequate treatment there is a rapid dilution of the blood and a rapid increase in the concentration of these substances in the urine. There is no direct relationship between the alterations in the blood and the urine and none of the changes appear to be significantly affected by the presence or degree of hyperglycemia or glycosuria.

Diameter of Red Blood Cells Differentiates Anemias.—A technic is described by Grosh and Stifel for the measurement of the diameter of red blood cells and for the construction of diameter curves, which is sufficiently accurate for clinical purposes and sufficiently simple to be used in a routine manner in examining any questionable blood spread. The diameter curves have been found of value in the differentiation of Addison's anemia in all its stages and of secondary anemia.

Renal Function with One Kidney.—Foster states that the decrease in renal tissue in a person with one kidney is only doubtfully revealed by kidney function tests when the findings are compared with those of a normal subject. The only test that shows *consistently* that there is a *limitation of function* is the ratio after giving urea. While the results of study of persons with only one kidney emphasize the limitations of diagnostic methods in the recognition of nephritis, they also suggest that caution must be exercised in endeavors to estimate the amount of tissue capable of function.

Relative Blood Volumes in Diabetes Mellitus.—Diabetes mellitus produces marked changes in water distribution and in the total water balance of the body. The degree of these changes, according to Foshay, is modified by the magnitude of the hyperglycemia and by the rate of onset. Their character is modified by vascular disease and renal permeability. Reduction of hyperglycemia (or the action of insulin) may produce either an increase or a decrease in the concentration and viscosity of the blood. The result in any given case depends on the antecedent water content.

Atlantic Medical Journal, Harrisburg, Pa.

29: 201-283 (Jan.) 1926

*Nephritis in Children. S. W. Clausen, Rochester, N. Y.—p. 201.
Problem of Syphilis in Surgical Diagnosis. J. H. Stokes, Philadelphia.—p. 205.
Important Landmarks in Late Congenital and Acquired Syphilis. G. J. Busman, Pittsburgh.—p. 210.
Early Diagnosis of Syphilis. J. V. Klauder, Philadelphia.—p. 214.
Symposium on Uterine Bleeding: Adolescent Hemorrhage. B. Z. Cashman, Pittsburgh.—p. 222.
Uterine Hemorrhage Complicating Pregnancy. E. A. Schumann, Philadelphia.—p. 224.
Hemorrhage of Advanced Menstrual Life Not Due to Malignancy. S. A. Chalfant, Pittsburgh.—p. 227.
Hemorrhage from Carcinoma, as Distinguished from Postmenopause Bleeding. C. C. Norris, Philadelphia.—p. 231.
*Diabetes in Eight Members of Family, with Six Deaths in Coma. R. A. Kern, Philadelphia.—p. 234.
Diabetic Coma, with Gangrene of Foot Treated Intensively with Insulin in Patient's Home. J. W Ellenberger and C. R. Phillips, Harrisburg.—p. 235.
*Recurrent Auricular Fibrillation Rationed on Quinidine Sulphate. J. E. Talley, Philadelphia.—p. 236.
Pellagra in Pennsylvania. C. E. Irvin, Danville.—p. 237.
*Syphilitic Cirrhosis of Liver in Boy of Fifteen. A. J. Simpson, Chester.—p. 238.
*Hemochromatosis. C. C. Hartman, Pittsburgh.—p. 239.
*Radical Cure of Simple Obesity by Dietary Measures Alone. F. A. Evans, Pittsburgh.—p. 240.
Case of Infectious Mononucleosis. C. W. W. Elkin, Pittsburgh.—p. 241.
Mastoid Cases. D. Macfarlan, Philadelphia.—p. 242.
Thrombo-Angiitis Obliterans in Negro. W. G. Gemmill, York.—p. 244.
Responsibility of County Society for Promotion of Health Examinations. E. B. Edie, Uniontown.—p. 245.

Nephritis in Children.—In the 102 cases of glomerular nephritis in children reviewed by Clausen, infections played a prominent rôle in the causation. Chronic upper respiratory infections caused 33 cases; scarlet fever, 26; acute upper respiratory infections, 12; acute mastoiditis, 5; pneumonia, 10; diphtheria, 4, and chronic sinus infections, 4. There were 21 deaths in this group: from uremia, 10; pneumonia, 4; sepsis, 4; cardiac failure, 2, and pertussis, 1. As to treatment, if infection plays an important rôle in nephritis, eradication of the infection is indicated. In glomerular nephritis, the infection is usually an acute self-limited streptococcic infection. When it subsides, the patient recovers, often in spite of the treatment. When chronic focal infection exists, the question of operation naturally arises. Clausen has not seen any case cured by nasal sinus operations, but has seen benefit following removal of infected tonsils and teeth. Clausen has discontinued purgation and hot packs, has paid attention to infection, and has used diets considerably richer in protein and calories than before. Of twenty-eight cases of tubular nephritis, thirteen patients died. Sinus infection was certainly the cause of the disease in thirteen cases and probably so in four others. One point in treatment is stressed—not to limit the diet in these cases. The most striking benefit is seen when the causative nasal sinusitis can be cured. This can occasionally be accomplished by means of irrigations of the nares with alkaline salt solutions (sodium chloride, 0.75 per cent; sodium bicarbonate, 0.75 per cent). Instillations of mercurochrome, 1 per cent, appear to have benefited one patient.

Familial Diabetes.—Kern's patient, a Jew, aged 35, gave a familial history of diabetes. Three sisters, aged 17, 19 and 23, respectively, died in diabetic coma. In each instance the illness lasted only a few months. The patient's mother died in diabetic coma at 32, after an illness of two years. Her brother and one sister died in coma at about 40, each having been ill for several years. The remaining sister, now in her fifties, was also diabetic. Of the history of his grandparents the patient knew nothing, nor of the children of his mother's siblings. None of his father's family was diabetic. The patient's two children were living and well.

Quinidine Sulphate Ration in Auricular Fibrillation.—Talley relates the case of a woman, aged 52, who had auricular fibrillation and who kept very comfortable by taking a certain amount of quinidine sulphate every day. At present she is taking 6 grains (0.4 Gm.) of quinidine sulphate at 10 a. m. and at 10 p. m. to maintain a regular rhythm. Quinidine has rendered the pulse regular and kept her free from pain—an unusual complication in auricular fibrillation—and has abolished the recurrent attacks of acute fibrillation with rapid rate. In two other patients the maintenance of a regular rhythm by such a ration of quinidine regularly serves to keep the patients edema free.

Syphilitic Cirrhosis of Liver in Boy.—Congenital syphilis was the cause of the cirrhosis in Simpson's cases. The boy's father had died two years before with a diagnosis of syphilis, and the entire family—mother, sister and one brother—gave positive Wassermann reactions. The brother was a neurosyphilitic with marked dementia. Congenital syphilis in the patient was diagnosed at 8 years of age, when he had a sore mouth and was blind for two months, but improved under treatment. Two years later, he developed marked ascites, and 4,500 cc. of fluid was obtained by paracentesis. He was given a course of neo-arsphenamine and mercury and improved enough to enter the public school, but he was in bad shape. He appeared at first to respond to treatment, but developed epileptiform convulsions, passed into coma and died.

Hemochromatosis.—Pain was the chief complaint in Hartman's case. Physical examination showed unusually good nutrition, pale skin, atrophic rhinitis, and thyroid fulness, but nothing else of importance. The urine was very highly colored. The urinary pigments were not investigated. An attempt at biliary drainage caused hemorrhage from the biliary tract (?). The terminal period was marked by abdominal pain, nausea, vomiting, fever, hematemesis, prostration, anemia, petechial hemorrhages, and ecchymotic patches of the skin. There was a marked iron reaction of the tissues. There was no appreciable pigmentation of the skin or enlargement of the superficial lymph glands. A culture from the heart's blood was sterile. The condition was not recognized during life.

Diet Cure of Obesity.—The treatment in Evans' case consisted of diet alone. It was arrived at by calculating a diet for the patient's *ideal weight*, consisting of 1 Gm. of protein and 30 calories per kilogram, and such an amount of carbohydrate and fat that the ketogenic-antiketogenic ratio was 1 5 : 1. The menu was made up from these figures, eliminating as much of the fat as possible. This resulted in protein, 66 Gm.; carbohydrate, 79 Gm.; fat, 38 Gm.—a total of 922 calories each twenty-four hours. This was 14 calories for the ideal weight, 65 pounds (29.5 Kg.). She was given 10 grains (0.65 Gm.) of sodium bicarbonate twice a day.

Boston Medical and Surgical Journal

194: 191-232 (Feb 4) 1926

*Embolic Gangrene of Extremities in Pneumonia. E. D. Kiefer, F. G. Brigham and R. R. Wheeler, Boston —p. 191.
Vital Capacity in Hyperthyroidism: Two Thousand and Two Hundred Observations. I. M Rabinowitch, Montreal —p 199.
*Ultraviolet Therapy in Pediatrics E. T. Wyman, Boston —p. 202.
Room for Treatment with Ultraviolet Rays E. T. Wyman, Boston. —p. 205.

Diabetes Mellitus; Gangrene; Pneumonia.—Kiefer, Brigham and Wheeler report a case of sudden infarction of the entire left foot occurring in a 19 year old boy, who was in diabetic coma complicated by pneumonia. The circulation did not return, and the condition went on to frank gangrene. Two days later the terminal phalanx of the fifth finger on the left hand suddenly became cold and black. However, the circulation gradually returned and almost all evidence of the infarction had disappeared within three days. The only evidence of pneumonia was a high temperature complicating the diabetic coma. However, within four days the boy developed a perfectly typical clinical picture of lobar pneumonia of the right base. Death occurred on the sixth day. Fifty-two cases from the literature are reviewed.

Ultraviolet Therapy in Pediatrics.—Wyman has found ultraviolet therapy a specific in treating rickets and tetany and a valuable therapeutic agent in treating tuberculosis of the mesentery and bronchial glands and tuberculous peritonitis.

Colorado Medicine, Denver

23: 41-74 (Feb) 1926

"White Bile" (Hydrops of Bile Ducts). L Freeman, Denver.—p. 45.
William Crawford Gorgas. J. N. Hall, Denver.—p 49.
Differential Diagnosis of Functional and Organic Diseases of Nervous System. T. B. Throckmorton, Des Moines, Iowa.—p 54.
Treatment of Mental Disorders R. P. Smith, Sheridan, Wyo —p 63.
Early Medical History of Wyoming. A. B. Hamilton, Laramie, Wyo. —p 66
Psychopathology. L H. Ziegler, Rochester, Minn —p. 67.

Florida Medical Association Journal, St. Augustine and Jacksonville

7: 176 205 (Jan) 1926

Role of Calcium C. F. Arroyo, Tampa —p 176
Duval County Hospital. R H McGinnis, Jacksonville —p 180
Roentgen Diagnosis and Bronchoscopic Treatment of Lung Abscess. W. J. Knauer and W. McL Shaw, Jacksonville —p 183
Study of Accessory Nasal Sinus Disease. L C. Ingram, Orlando. —p 187.
Uterus Acollis with Atresia S R Edwards, Miami Beach —p 190
Looking Backward Over Fifty Years of Health Work in Florida. J. Y. Porter, Key West —p 190.

Journal of Bacteriology, Baltimore

11: 1 74 (Jan) 1926

Dynamics of Toxicity: Theory of Disinfection. I S Falk and C E A. Winslow, New Haven, Conn —p 1
*Viability of Bacterium Typhosum in Ice Cream M J Prucha and J M Brannon, Champaign, Ill —p 27
Spirochetes of Termites S R Damon, Baltimore —p 31
Clostridium Flabelliferum Putrefactive Anaerobe with Brush Like Sporangia W S Sturges and G F Reddish, *Richmond, Va* —p 37
Multiplication of Yeasts and Yeast Like Fungi in Synthetic Nutrient Solutions F W Tanner, E E Devereux and F M Higgins, Urbana, Ill —p 45
Variations in Descendants of Single Diphtheria Bacillus M J Crowell, Providence, R I —p 65

Viability of Typhoid Bacillus in Ice Cream.—Two years and four months after their introduction into ice cream, living typhoid germs were still found by Prucha and Brannon in tested samples. The temperature in the hardening room fluctuated between 8 F below zero and 8 F. above, but for the most part it was about 4 F above The ice cream was prepared, Jan. 11, 1922, and was held under the foregoing conditions until all was used up by sampling, the last sample being taken, May 20, 1924 Samples for bacteriologic examination were taken from the mixture just before it was frozen, from the freshly frozen cream, and then at varying intervals during the two years and four months of storage The original bacterial count made just after freezing was 51 million germs per cubic centimeter, at the end of the second year the count was 6,300

Journal of Experimental Medicine, New York

42: 747 922 (Dec. 1) 1925

Immunizing Antigen of Pneumococcus III W A. Perlzweig and C S Keefer, Baltimore —p 747
Tissue Changes Following Deprivation of Fat Soluble A Vitamin. S B Wolbach and P R. Howe, Boston —p 753
Alveolar Pores of Pneumonia W S Miller, Madison, Wis —p 779.
*Skin Reactions to Alternate Heat and Roentgen-Ray Exposures J A. Hawkins and H Clark, New York —p 785
*Experimental Rickets I Rickets in Young of Rabbits Infected with S Japonicum R Kawamura and Y Kasama, Nigata, Japan —p 793.
*Etiology of Herpes Zoster R. Cole and A G Kuttner, New York —p 799
*Bacteriophage of d'Herelle IV Concerning Oneness. J. J. Bronfenbrenner and C Korb, New York —p 821
*Relation Between Tumor Susceptibility and Heredity. II Tar Tumor Incidence C J Lynch, New York —p 829
Serologic Studies on Blood Primates K. Landsteiner and C. P. Miller, New York
  * I. Differentiation of Human and Anthropoid Bloods —p 841
  * II. Blood Groups in Anthropoid Apes —p 853
  *III. Distribution of Serologic Factors Related to Human Iso-Agglutinogens in Blood of Lower Monkeys —p 863
*Leptospira Hebdomadis and Akiyami S Shiozawa, M. Koshina and O Kitayama, Tokyo, Japan —p. 873
*Influence of High Protein Diet on Kidneys A. J. Miller, Boston. —p 897.

Skin Reactions to Heat and Roentgen Ray.—Different areas on the abdomen of the same guinea-pigs have been exposed by Hawkins and Clark to suberythema doses of soft roentgen rays, to heat of intensity below the critical dose for the production of burns, and to both radiations in sequence. The only effect of exposure to roentgen ray or heat alone was a slight scaling of the skin. The results were the same no matter in which sequence the agents were applied

Parasitic Disease in Mother and Rickets in Offspring.—Observations made by Kawamura and Kasama show that young rabbits born of mothers affected with *Schistosomum japonicum* develop typical rickets Rickets can also be produced if young, healthy rabbits are infected It is natural to suppose that the rachitic changes are caused by the parasite itself. Since, however, a similar disease can be produced in the offspring when the mother is fed on egg yolk, the causation is not limited to the action of this parasitic toxin alone.

Etiology of Herpes Zoster.—Attempts made by Cole and Kuttner to inoculate rabbits, guinea-pigs and monkeys with material obtained from nine cases of herpes zoster proved unsuccessful.

Concerning Oneness of Bacteriophage.—Lytic filtrates active against *B. dysenteriae* Shiga, *B. coli*, *B pestis-caviae* and staphylococcus, respectively, proved to be differently affected by changes in hydrogen ion concentration. Bronfenbrenner and Korb are of the opinion that, as these differences in individual resistance persisted, notwithstanding the repeated passage of lytic filtrates through cultures of bacteria other than those against which they were primarily active, the fact seems to offer evidence in favor of a multiplicity of bacteriophages.

Tumor Susceptibility and Heredity.—Lynch reports that two strains of mice, one with a high, the other with a comparatively low, incidence of spontaneous tumors of the mammary gland, when painted between the shoulders with coal tar extract, developed tar tumors with about practically identical frequency. No hereditary differences in the response of the skin to tar painting were demonstrable in two strains of mice manifesting markedly different percentage incidences for spontaneous mammary growths. Mice from which spontaneous mammary tumors had been removed were treated with tar. The percentage incidence of the resulting tar tumors was similar to that met with in the controls, except, possibly, in the case of such animals as showed a recurrence of the spontaneous growth. In them the development of tar tumors seemed to be delayed and possibly prevented. The numbers involved are too small to be conclusive.

Differentiation of Human and Anthropoid Blood.—The serologic differences between man and the lower monkeys appear to be no greater than those between the anthropoid apes and the lower monkeys. These findings confirm the opinion that the anthropoid apes do not rank in the genealogic tree between lower monkeys and men.

Blood Groups in Anthropoid Apes.—The bloods of twenty-one anthropoid apes were examined serologically by Landsteiner and Miller. It was found possible to assign each to one of the four human blood groups. The iso-agglutinogens of the anthropoids were found to be identical with those of human blood. These very same factors could not be demonstrated in the blood of the lower monkeys. In the blood of fourteen chimpanzees examined, only the iso-agglutinogen A has been found, whereas both A and B were present in the blood of six orangs. The significance of these findings for the knowledge of the human blood groups is discussed.

Special Serologic Factors in Blood.—Serologic studies on the bloods of thirty-six species of lower monkeys have shown that there exists a correspondence between the distribution of a certain hemagglutinogen and the place of the species in the zoological system. It would seem from these findings that a genus, perhaps even a family, of animals may be characterized by a special serologic factor. The factor found in the lower monkeys is not identical with the one in the erythrocytes of the anthropoid apes and man.

Akiyami Caused by Leptospira.—From the results of an etiologic study of the disease known as akiyami, which prevails in the Shida district of Shizuoka province, Koshina, Shiozawa and Kitayama conclude that akiyami is an infectious disease caused by a leptospira. The leptospira causing akiyami is very difficult to differentiate morphologically from *L. icterohaemorrhagiae* and *L. hebdomadis.* The strains of leptospira isolated from cases of akiyami are of two types. One type, isolated from three of sixteen cases, is highly virulent for guinea-pigs and is serologically distinct from *L. icterohaemorrhagiae* and *L. hebdomadis.* It is termed the A type. The type obtained from the other cases is less virulent for guinea-pigs and is serologically identical with *L. hebdomadis.* This is termed the B type. The field mouse (*Microtus montebelli),* which harbors *L. hebdomadis,* has also been found to harbor the A type of akiyami.

Influence of High Protein Diets on Kidneys.—Seven groups of rats were fed by Miller on diets containing protein varying in amount from 1.36 to 40.13 per cent derived mainly from grain, casein, meat and milk with carbohydrate, fat and vitamins. From a number of animals one kidney was removed to double the load on the remaining one. The time of feeding was from nine weeks to six months. Blood uric acid, blood urea nitrogen determinations, and microscopic examinations of the kidneys revealed no evidence of kidney damage. There was evidence of kidney hypertrophy, consisting of increased weight of the kidney, large diameters of the capillary tufts, convoluted tubules, and kidneys in the animals receiving high protein diet. The nephrectomized animals that ate high protein had no kidney changes, except hypertrophy, and this amounted to an increase in weight of an average of 0.54 Gm., or 85 per cent of the average weight of the right kidneys of the controls.

Journal of Immunology, Baltimore

11: 1-80 (Jan.) 1926

Specific Resistance as Influenced by Nonspecific Agents. W. J. Schatz, Allentown, Pa.—p. 1.
Qualitative Receptor Analysis. II. Bactericidal Serum. A. Felix and L. Olitzki, Jerusalem, Palestine.—p. 31.

Journal of Urology, Baltimore

15: 1-110 (Jan.) 1926

*Hexylresorcinol: Significance of Surface Tension in Urinary Antisepsis. V. Leonard and M. Frobisher, Baltimore.—p. 1.
*Sterilizing Urinary Tract. H. H. Young, Baltimore.—p. 11.
Primary Congenital Dilatation of Ureters. J. S. Eisenstaedt, Chicago.—p. 21.
Ureteral Kinks. I. Simons, Nashville, Tenn.—p. 29.
Ureteral Stricture. G. R. Livermore, Memphis, Tenn.—p. 45.
Clinical Pathology of Ureter. R. L. McKiernan, New Brunswick, N. J.—p. 51.
Pathologic Findings in Cases Clinically Diagnosed as Ureteral Stricture. G. L. Hunner and L. R., Wharton, Baltimore.—p. 57.
Clinical Features of Eight Cases of Ureteral Stricture. G. L. Hunner, Baltimore.—p. 93.

Hexylresorcinol.—Leonard and Frobisher emphasize that the successful application of hexylresorcinol in the treatment of chronic infections of the urinary tract depends on the strict observance of four factors, all of which bear a distinct relationship to the surface tension of the urine. (1) The dosage must be adequate (0.6 Gm. three times daily). (2) The fluid intake must not be increased, for this not only dilutes the active hexylresorcinol in the urine but renders even that dilution less effective than it would be otherwise, by raising the surface tension. (3) Sodium bicarbonate must be avoided, for this drug raises the surface tension of the urine so markedly as to rob it of its bactericidal properties. (4) The course of treatment should be uninterrupted and sufficiently prolonged.

Sterilizing Urinary Tract.—Experimental and clinical work has convinced Young that mercurochrome-220 soluble may be used intravenously without fear of serious or continuous damage to the kidneys. He feels so sure of this position that he has not hesitated to give mercurochrome intravenously even when albumin, casts, pus cells and bacteria have been present in large numbers in the urine.

Laryngoscope, St. Louis

36: 1-74 (Jan.) 1926

Study of Thymus in Children of Tonsil and Adenoid Age. H. P. Mosher, A. S. Macmillan and F. E. Motley, Boston.—p. 1.
Practical Demonstration of Modern Pedagogic Methods in Training of Deaf Child. M. A. Goldstein, St. Louis.—p. 31.
Atypical Case of Acute Otitis Media. M. Metzenbaum, Cleveland.—p. 43.
New Rhinoplastic Instrument. M. Maltz, New York.—p. 54.

Michigan State Medical Society Journal, Grand Rapids

25: 49-112 (Feb.) 1926

University Hospital. H. A. Haynes, Ann Arbor.—p. 49.
Educational Function of Hospital. J. B. Herrick, Chicago.—p. 51.
University Hospital: Social and Economic Service to State. C. P. Emerson, Indianapolis.—p. 55.
Synergistic Analgesia During Labor. L. A. Chrouch, Detroit.—p. 59.
Doctor's Log. W. J. Stapleton, Jr., Detroit.—p. 68.
Congenital Heart Disease: Case. M. S. Feldman, Detroit.—p. 77.
Why Physiotherapy? A. E. Schiller, Detroit.—p. 78.

Military Surgeon, Washington, D. C.

58: 1-112 (Jan.) 1926

Organization of Technical Specialties in Time of War. Spire, Paris.—p. 1.
Standardization of Splints in A. E. F. N. Allison, Boston.—p. 7.
Contacts with Chiefs. F. A. Winter, Washington, D. C.—p. 24.
Nitrous Oxide-Oxygen Anesthesia. E. I. McKesson and F. W. Clement, Toledo, Ohio.—p. 33.
Objects of Army Medical School. H. C. Fisher, Washington, D. C.—p. 52.

Transmission of Dengue Fever by Mosquito. J. F. Siler, M. W. Hall and A. P. Hitchens, Manila, P. I.—p. 57.
Chemical Warfare. B. Aron, Chicago.—p. 61.
Sanitary Inspections of Summer Training Camps. L. L. Gardner, Washington, D. C.—p. 65.

Southwestern Medicine, Phoenix, Ariz.

10: 1-44 (Jan.) 1926

Specialists. W. Smith, Phoenix.—p. 1.
Hay-Fever. E. W. Phillips, Phoenix.—p. 4.
Hypernephroma. C. S. Vivian, Phoenix.—p. 7.
Treatment of Chronic Ulcerative Tuberculosis of Lungs. W. F. Dutton, Amarillo, Texas.—p. 11.
Diagnosis of Tuberculosis by General Practitioner. W. H. Cryer and F. D. Vickers, Deming, N. M.—p. 16.
Prevention of Diphtheria. M. K. Wylder, Albuquerque, N. M.—p. 20.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

22: 251-328 (Oct.-Dec.) 1925

*Brain Tumors in Children: Symptomatology. M. Critchley.—p. 251.
Hypertelorism: Two Cases. E. A. Cockayne.—p. 265.
*Plantar Lines in Mental Defectives. T. Brushfield.—p. 274.
*Case of Morbilliform and Bullous Eruption with Jaundice from Phenobarbital (Luminal) in Choreic Child. F. P. Weber.—p. 280.
Granuloma with Foreign Body Giant Cells Due to Injection of Ether into Panniculus Adiposus. F. P. Weber.—p. 285.
Cystitis Caused by Ameba Histolytica and Schistosoma Mansoni. A. Panayotatou.—p. 289.

Brain Tumors in Children.—One hundred and twenty-five cases of brain tumors in children are analyzed by Critchley. These cases represent 8.2 per cent of all cases of brain tumor seen during a given period. In fifty-nine cases the tumor was situated in the pons or cerebellum, in thirty-four in the cerebrum and fourteen were classed as "pituitary or suprapituitary." The symptomatology is discussed.

Plantar Lines in Mental Defectives.—Brushfield studied the foot in 618 mongol and other varieties of mentally defective children. He noted that in degenerate persons there appears to be a tendency for the primitive condition of the sole to be reproduced, with deeper markings, and to persist for some years later, up to the fourteenth year. The oblique plantar line was found to be an almost constant character of the mongol, and its importance lies in the fact that it underlines the simian quality of so many of the mongolian features met with in this variety. The marked feature in the foot of the mongol is that he possesses, in addition to this line, a wide gap between the first and second toes. If the finger is pressed on this line it appears to come directly in contact with the head of the metatarsal on each side. As these plantar lines or folds occur so frequently and persist so late in mental defectives they should always be looked for, and when present should be regarded as a stigma.

Phenobarbital Causes Bullous Eruption.—One gram every day for fourteen days was all the phenobarbital Weber's patient had taken. Nevertheless, she developed a very severe rash on the face and body. The girl did not feel ill, in spite of the fact that she was almost completely covered from head to foot with a florid morbilliform eruption (slightly purpuric in parts), the face, about the eyes, nose and lips, being especially affected. In addition there were numerous bullae. The most striking feature of the case was that the unbroken bullae contained a deep ochre yellow serous fluid, and the macerated epidermis constituting the wall of the collapsed bullae was similarly stained. The sclerotics were not markedly jaundiced, but the serous content of the bullae was found to give a strongly positive biphasic van den Bergh reaction for bilirubin; the indirect reaction was stronger than the direct reaction. These symptoms persisted for about three weeks. Copious desquamation took place.

British Journal of Ophthalmology, London

10: 1-64 (Jan.) 1926

Reaction of Intra-Ocular Pressure to Osmotic Variation in Blood. W. S. Duke-Elder.—p. 1.
Osmotic Therapy in Glaucoma. W. S. Duke-Elder.—p. 30.
Scleral Stitch in Advancement Operations. W. D. Lawrie.—p. 35.

British Journal of Radiology, London

31: 1-44 (Jan.) 1926

*Actinomycosis of Face and Neck Treated with Radium. S. A. Heyerdahl.—p. 1.
Electrotherapeutics and Diathermy. E. P. Cumberbatch.—p. 14.
Changes in Electrically Injured Bones. S. Jellinek.—p. 23.
Sun and Artificial Light Treatment. L. Hill.—p. 25.
*Bactericidal Effect of Ultraviolet Rays. A. Eidinow.—p. 35.

Radium Treatment of Actinomycosis.—Heyerdahl reports the clinical history and results of radium treatment in twenty-one cases of actinomycosis faciei and colli, some of these very serious cases, at the Riks Hospital, Oslo, Norway. In all cases the diagnosis was confirmed microscopically. In the great majority of cases, gamma rays of radium were employed, from concentrated preparations of radium, the radium rays being filtered through 1 or 2 mm. of lead. The result of the treatment has in all cases been cure without relapse, in the majority of cases with fine cosmetic results.

Bactericidal Effect of Ultraviolet Rays.—Cultures of many bacteria and pathogenic organisms are rapidly destroyed by direct exposure to ultraviolet rays. Eidinow asserts that this bactericidal action can also occur when a very thin film of blood containing bacteria is exposed to sources of ultraviolet rays. When photosensitizers, such as eosin and hematoporphyrin, are added to bacteria, the direct bactericidal action can take place on exposure to the visible rays. The direct exposure of defibrinated blood to sources of ultraviolet rays destroys the bactericidal properties of the "irradiated blood."

British Journal of Tuberculosis, London

20: 1-60 (Jan.) 1926

*Artificial Light Treatment in Surgical Tuberculosis. G. Gauvain.—p. 1.
Principles Underlying Village Settlements for Consumptive: Papworth Village. P. C. Varrier-Jones.—p. 11.
*Effects of Strong Prevalent Rain-Bearing Winds on Commonness and Course of Phthisis. W. Gordon.—p. 20.
Workshops for Tuberculous. N. D. Bardswell.—p. 25.

Artificial Light Treatment in Surgical Tuberculosis.—Gauvain stresses the fact that while general light baths will often convey to a patient a sense of well-being and even of exhilaration—in other words, produce a marked temporary tonic effect which may be reflected in local improvement more often than not—it is not a specific but merely a transitory reaction, the benefit of which becomes later less apparent. Just as the claim that "the sun will cure all forms of surgical tuberculosis" is quite untenable and is certain eventually to dishearten many sufferers and bring discredit on those who make that claim, so undue optimism in artificial light therapy will have an inevitable reaction. It is eminently desirable to use this method of treatment in surgical tuberculosis in suitable cases, but it should be regarded merely as an adjuvant method of treatment, as often a useful aid, but in no sense as a specific treatment. Gauvain urges that artificial light treatment should be undertaken only under informed medical guidance and with full and adequate equipment, manipulated by specially trained nurses.

Effect of Winds on Phthisis.—After twenty-five years of careful research, carried out by several methods and in many areas, into the effects of strong prevalent rain-bearing winds on the commonness and on the course of phthisis, Gordon says it can be asserted confidently: (*a*) that populations exposed to these winds suffer more (often much more) from phthisis than populations sheltered from them, and (*b*) that phthisis patients living in localities exposed to these winds have a higher (often a much higher) death rate and a lower (often much lower) recovery rate than patients living in shelter from them.

British Medical Journal, London

1: 126-172 (Jan. 23) 1926

Postencephalitic Parkinsonism. Results of Belladonna Therapy. A. J. Hall and M. D. Cantar.—p. 127.
Intestinal Diverticula. E. I. Spriggs and O. A. Marxer.—p. 130.
*Hemochromogen Crystal Test for Blood. D. J. A. Kerr and V. H. Mason.—p. 134.
*Diagnostic Test in General Paresis. J. S. Harris.—p. 136.
*Somatic Origin of Malignant Disease. C. R. Crowther.—p. 137.
*Rectus Transplantation in Treatment of Ventral Hernia. H. C. W. Nuttall.—p. 138.

*Treatment of Chronic Varicose Ulcer. A. P. Bertwistle.—p. 139.
Supernumerary Breast. A. Cruickshank.—p. 140.
Malignant Thyroid Tumor of Manubrium Sterni. R. Maingot.—p. 140.
Appendicitis Complicating Gastric Ulcer. D. Diamond.—p. 140.

Hemochromogen Crystal Test for Blood.—To test for hemin crystals, Kerr and Mason prefer Sutherland's method. For the production of hemochromogen crystals, the best procedure is to use Takayama solution no. 2. In the majority of cases, especially with fresh stains, if care is exercised, there is no difficulty in obtaining hemin crystals. The hemochromogen crystal test, however, possesses certain advantages, simplicity of technic being obtained in the cold by simply adding the Takayama solution. If it is desired to heat the slide, there is no danger of overheating as there is in the case of hemin crystals. The crystals are large, easily seen and are of a very characteristic appearance and color. The nature of the crystals may be confirmed by means of the spectroscope.

Diagnostic Test in General Paresis.—Harris asserts that the acetic anhydride-sulphuric acid test on the cerebrospinal fluid in cases of general paresis is positive in almost every case (97 per cent), and hence is almost as reliable as the Wassermann reaction in this condition. It is negative in almost every other type of mental disorder, except certain cases of neurosyphilis (other than general paralysis of the insane). It is a test which can be performed with great ease and rapidity and therefore is of definite value to the clinician.

Somatic Origin of Malignant Disease.—Crowther advances the theory that malignancy is not a property of cancerous tumors but a suicidal reaction of the body to an innocent hyperplasia. The reaction is suicidal because the hyperplastic cells are really part of the body, and the specific poisons generated to destroy the tumor are almost equally poisonous to the body at large. Sarcoma probably differs in its nature from carcinoma; here the disease process seems more complex, but the essential nature of malignancy is probably the same. It follows that if the body can be led to disregard the tumor, the malignant process will stop and the patient will be cured, except that the original hyperplasia will remain. This result might be achieved by blocking the afferent nerves of the part.

Rectus Transplantation in Ventral Hernia Operation.—Nuttall advocates shortening, overlapping, or transplanting the recti as a useful adjunct in the treatment of all cases of ventral hernia. The rectus muscles are detached from the pubes and can be shortened, if required, by making a tuck; they are then sutured to the symphysis, or can be overlapped and sutured with kangaroo tendon to the pubes after holes are drilled in the bone.

Treatment of Chronic Varicose Ulcer.—Bertwistle treats these cases by applying silver nitrate to the edge of the ulcer to destroy the granulations, and then covering the ulcer with gauze, soaked in a saturated solution of picric acid or by dusting with iodoform.

Calcutta Medical Journal

20: 143-176 (Oct.) 1925

Blood Chemistry of Bengalee Students: Physiologic Normals. II. H. N. Mukjerjee.—p. 143.
Treatment of Acute Empyema. P. K. Bardhan.—p. 149.
Herpes Zoster Ophthalmicus: Two Cases. S. K. Mukjerjee.—p. 153.

Journal of Laryngology and Otology, Edinburgh

41: 1-72 (Jan.) 1926

Cerebellar Abscess. W. Milligan.—p. 1.
*Pathologic Conditions Found in Case of Deaf Mutism. A. A. Gray and S. H. Nelson.—p. 7.
*Fourteen Cases of Total Laryngectomy for Intrinsic Cancer of Larynx. L. Colledge.—p. 19.
Factors Contributing to Occurrence of Hemorrhage in Tonsillectomy. H. M. Jay.—p. 28.
*Melanoma of Hard Palate. N. Patterson.—p. 32.
Septum Operation. T. B. Layton.—p. 33.

Anatomic Changes in Hearing Apparatus of Deaf Mutes.—A deaf-mute, aged 56, died of malignant disease of the stomach. Gray and Nelson secured the temporal bones and subjected the entire hearing apparatus to a careful and minute examination. First of all, there was no evidence of any hereditary tendency to deafness or deafmutism in the patient's family history. On the other hand, the fact that the patient had a brother who was a deaf-mute would indicate that some factor (possibly syphilis) had occurred in one or both of the patient's parents which had caused deafmutism in two of the children. As to the ear itself, there had been no arrest of development of the cochlea due to a toxic lesion or other cause occurring in intra-uterine life. It is suggested that the condition in the inner ear is indicative of repair occurring at a period of fetal life when the tissues are susceptible of repair, of a degree far more complete than is possible in postnatal life. Development has again proceeded, but it has not been of the ordinary type. It resembles that of the reptile or of the bird. The development of the nervous apparatus, however, does not seem to have been interfered with, and there is no reason to doubt that the impulses have been transmitted along the nerve paths, so far as microscopic examination can give information. Owing to the abnormal development of the cochlea, these impulses have been abnormal and consequently have not been appreciated in the ordinary manner by the higher cerebral apparatus.

Results in Laryngectomy for Cancer of Larynx.—Of the fourteen cases reported on by Colledge, seven patients are alive and well without recurrence at periods of from four years to not less than one year after the operation. Three have died from recurrence. Two died from bronchopneumonia shortly after the operation, and one from embolism a month later. One died suddenly in the street six months after the operation.

Melanoma of Hard Palate.—In Patterson's patient, a woman, aged 51, the tumor was known to have been present for ten years. It was a pigmented mass occupying the greater part of the hard palate, and extending slightly onto the soft palate. Enlarged glands were palpable below the angle of the jaw on the left side. The tumor was removed from the palate by dissection; this was followed by vigorous diathermy, the result being that a large portion of the hard palate subsequently came away as a sequestrum. A few weeks later a block dissection of glands was carried out on the left side of the neck, the greater part of the sternomastoid muscle being removed. The patient was subsequently treated by roentgen ray. A year later the glands below the angle of the jaw on the right side were seen to be enlarged. They were removed. For three years there was no sign of recurrence, then a swelling was noticed over the lower part of the chest on the left side. The patient is still under observation.

Journal of Obstetrics and Gynaecology of British Empire, Manchester

32: 649-858 (Winter) 1925

*Abnormal Development of Endometrial Tissue Within Female Pelvis. S. B. Herd.—p. 649.
*Fate of Graafian Follicle in Human Ovary. W. Shaw.—p. 679.
*Fibromyoma of Uterus: Surgical Operation or Intensive Roentgen-Ray Therapy. L. Martindale.—p. 690.
Material and Methods of Gynecologic and Obstetric Clinic. W. B. Bell.—p. 720.
Technic of Suture of Uterus After Cesarean Section. B. Bell.—p. 727.
*Fibromyoma of Uterus. T. G. Stevens.—p. 729.
Large Cystic Tumor of Liver Simulating Ovarian Cyst. T. G. Stevens.—p. 731.
Estimation of Fetal Maturity by Measurements Taken After Birth. W. Adams.—p. 734.

Endometrioma.—Herd's discussion of the etiology, pathology and clinical importance of certain glandular tumors arising within the pelvis, and more especially in the uterus and ovaries, is based on a study of more than 200 specimens. It is apparent that there are many different ways in which extra-uterine endometriomas may arise.

Fate of Graafian Follicle.—Shaw asserts that only a small percentage of graafian follicles found in the ovary at birth undergo ovulation. The majority become atretic. The atretic structures derived from the follicle are the corpus atreticum, corpus candicans, corpus fibrosum and corpus restiforme.

Treatment of Fibromyoma of Uterus.—Martindale analyzes 252 cases treated either by surgical operation or intensive roentgen-ray therapy. He feels that both methods have their uses, and the choice must be left to the gynecologist who has not only diagnosed the actual pelvic condition but has also obtained a knowledge of the physique and power of resistance of his patient.

Unusually Large Uterine Tumor.—The tumor in Stevens' case weighed 47 pounds and 5 ounces (21.4 Kg.). It was drawn out of the abdomen by means of a block and tackle, and the operation of subtotal hysterectomy was completed in thirty-five minutes. There was no postoperative shock.

Journal of State Medicine, London

34: 1-62 (Jan.) 1926

Some Problems of Natural Immunity and Prophylaxis. J. C. G. Ledingham.—p. 2.
Rôle of Medical Services in Factory. W. F. Dearden.—p. 26.
Prevention of Industrial Anthrax. G. E. Duckering.—p. 39.
Bismuth in Treatment of Syphilis. R. J. G. Parnell.—p. 49.

Journal of Tropical Medicine and Hygiene, London

29: 1-8 (Jan.) 1926

*Preservation of Insulin. E. Trocello and A. Cruto.—p. 1.
*Protection of Head Against Sun's Rays in Tropical Africa. J. F. Corson.—p. 2.
Corneal Ulcer in Malaria. R. E. McConnell and C. M. McGill.—p. 3.
Treatment of Bilharzia with Tartar Emetic. P. H. J. Lampe.—p. 4.

Preservation of Insulin.—Trocello and Cruto insist that insulin be kept in solid form because, as shown by experiments, it does not undergo any alteration at a high temperature, and can be preserved for an unlimited length of time. The cause of the difference in preservation of insulin in liquid form lies in the fact that a hydrolysis of the product causes a deterioration in its pharmacodynamic properties.

Protection of Head Against Sun's Rays.—Corson believes that there is a tendency to attach an exaggerated value to the penetrative power of the sun's rays in tropical Africa. He says that a light form of hat with good reflecting power, such as a Panama, may safely be used instead of a helmet, at least when the circumstances of daily life do not require prolonged exposure to the sun.

Lancet, London

1: 165-221 (Jan. 23) 1926

Major Problem of Puerperal Sepsis. V. Bonney.—p. 165.
*Treatment of Acute Bacterial Infections with Mercury and Mercurochrome Intravenously. L. S. Dudgeon.—p. 169.
Determination of the Basal Metabolic Rate. T. C. Hunt.—p. 172.
*Blood Transfusion: Defibrination Method. R. Platt.—p. 173.
*Blood Transfusion Apparatus. H. H. Moll.—p. 175.
Erythredema or Pink Disease: Twelve Cases. C. P. Lapage.—p. 176.
*Aneurysm of Sinus of Valsalva Bursting Externally. J. H. Sheldon.—p. 178.
*Familial Neurosyphilis with Apparently Healthy Parents. A. G. Duncan.—p. 179.

Mercurochrome in Treatment of Acute Bacterial Infections.—Dudgeon has used mercurochrome-220 soluble intravenously in 150 cases of acute bacterial infections subsequently to, or instead of, mercuric chloride, has has found it to be of definite value. Mercurochrome dissolved in saline solution hemolyzes red blood corpuscles, but in the presence of blood serum or blood plasma the hemolytic activity is considerably reduced. With washed red cells, hemolysis occurs with a dilution of 1:2,000 in saline in vitro, while Dudgeon employs for intravenous inoculations strengths of 1:200, 1:500 and 1:750 in saline solution without ill effect. He has given daily intravenous injections of mercurochrome for five days without observing any complications which could be credited to it.

Transfusion of Defibrinated Blood.—The disadvantage of transfusion with citrated blood is the frequency with which "reactions," often mild, sometimes serious or even fatal, follow the introduction of the blood. In thirty-four consecutive cases in which transfusion was done by Platt with defibrinated blood, no such reaction occurred.

Blood Transfusion Apparatus.—Moll advocates the use of record syringe needles for both the donor and the recipient.

Aneurysm of Sinus of Valsalva.—In the case reported by Sheldon, intracardial rupture of the aneurysm was prevented by the presence of a coexistent adherent pericardium, probably of rheumatic origin. The aneurysm ruptured in the midline of the sternum at the level of the sixth cartilage. The sinus of Valsalva by the anterior cusp was expanded to form a saccular aneurysm. The aorta showed patches of syphilitic aortitis but was otherwise normal.

Familial Neurosyphilis.—Duncan's patient was one of six children, and the mother had had one miscarriage at the sixth week. The patient and a brother had dementia paralytica. Another brother had headaches and a positive blood Wassermann reaction. While both parents were negative in every way, the mother's father, two uncles and two brothers died in a mental hospital.

Quarterly Journal of Medicine, London

19: 113-234 (Jan.) 1926

*Heart Failure with Normal Rhythm. J. Parkinson and A. E. Clark-Kennedy.—p. 113.
*Case of Malignant Change Developing in Tumor of Rectogenital Pouch Associated with Diffuse Infiltration of Lungs and Intense Erythremia. S. Barnes, A. P. Thomson and F. W M. Lamb.—p. 151.
*Blood Fats in Diabetes Mellitus in Relation to Treatment. A. C. White.—p. 159.
Development of Contralateral Disease in Artificial Pneumothorax Therapy. M. Davidson.—p. 179
*Nerve Irritation and Aortic Lesions. R. C. Shaw.—p. 203.
*Can Insulin Produce Even Partial Cure in Human Diabetes Mellitus? G. A. Harrison.—p. 223

Heart Failure with Normal Rhythm.—One hundred unselected cases of severe congestive heart failure with normal cardiac rhythm, the patients being between the ages of 20 and 70, are described by Parkinson and Clark-Kennedy. Eighty-four patients have died and forty-eight necropsies were obtained. The pathologic condition to which failure was attributable proved to be cardiovascular hypertrophy (high blood pressure) in twenty-six, cardiovascular syphilis in twenty, chronic pulmonary disease in nineteen, chronic rheumatic heart disease in seven, acute or chronic rheumatic endocarditis in four, atheromatous coronary occlusion in four, and congenital morbus cordis in one. Apart from these cases, in two the failure was due to chronic rheumatic heart disease and high blood pressure, in two, to chronic rheumatic heart disease complicated by infective endocarditis, and in one to high blood pressure complicated by cardiovascular syphilis. In the remaining fourteen, the pathologic basis of failure was uncertain. Only seven patients in the whole series subsequently acquired auricular fibrillation; two of them had chronic rheumatic heart disease; in one case it was attributable to past rheumatic infection, and in three, apparently to the heavy administration of digitalis. Evidence is adduced showing that normal rhythm likewise persists in heart failure, due to cardiovascular hypertrophy (high blood pressure), chronic pulmonary disease, syphilitic aortic and coronary disease, and atheromatous occlusion of the main coronary arteries, as well as to congenital malformations. In these conditions the heart muscle is not primarily diseased Evidence is also given proving that in hyperpiesia (cardiovascular hypertrophy) the blood pressure sometimes falls to normal during the progress of failure. Cases with no apparent clinical cause of failure are described and classified as "primary myocardial." Necropsy showed that in some of these the failure was due to previous high blood pressure (systemic cardiovascular hypertrophy) and in others to atheromatous occlusion of the main coronary arteries. In none of them was it due to chronic myocardial inflammation or degeneration. No example in the whole series was seen of failure with normal rhythm from nonrheumatic primary myocardial disease or degeneration. It is suggested that the pathologic basis underlying nonrheumatic auricular fibrillation is likely to be found in a generalized change in the auricular muscle, such as might result from chronic inflammation, toxemia, or diffuse coronary sclerosis. Of the patients with high blood pressure, few presented clinical evidence of renal disease. Necropsies showed that a correspondingly small minority had severe primary nephritis, though many had some degree of associated chronic interstitial nephritis. The average duration of life from the onset of edema in the eighty-four cases ending in death was only eight months.

Erythremia Caused by Rectogenital Pouch Tumor.—Erythremia of intense degree without splenic enlargement is rare, but in the case cited by Barnes, Thomson and Lamb it was due to a diffuse growth scattered throughout the lung alveoli, and containing unstriped muscle tissue. The primary growth was a tumor of the rectogenital pouch which had been sarcomatous. This is said to be the first case of the sort on record.

Significance of Blood Fats During Treatment of Diabetes.—Data are given by White as to the reaction of the blood fats in thirteen cases of diabetes mellitus under treatment, in all of which, except two, treatment at some time was with insulin. The possible factors influencing the blood fat level are considered and the difficulty of obtaining any definite correlation between them noted. The necessity for further observation, if blood fats are to be used for prognosis, is emphasized.

Nerve Irritation and Aortic Lesions.—Experimental work done by Shaw with the idea of inducing vascular changes by irritation of nerve supply, in this instance the cardio-aortic, indicate a possible relationship between aortic disease and nervous phenomena, for example, such as occur in angina pectoris.

Does Insulin Effect Cure in Diabetes?—As a result of observations lasting from eleven to eighteen months on five selected cases of diabetes mellitus, no evidence was obtained by Harrison of even a partial remission of the disease. The daily intake of carbohydrate, protein, fat and calories remained fixed throughout. The dose of insulin was adjusted to the fixed diet according to the results of estimations of the blood sugar content. All five patients needed as much or slightly more insulin at the end of the observations as at first.

Annales de l'Institut Pasteur, Paris

39: 925-990 (Dec.) 1926

Micro-Organism of Contagious Agalactia in Sheep and Goats. J. Bridré and A. Donatien.—p. 925.
Coccidia and Coccidioses in Rabbits. C. Pérard.—p. 952.
Vaccination Against Chicken Cholera. A. Staub.—p. 962.
The Leukocytes in Relapsing Fever. E. V. Kartacheff.—p. 969.

40: 1-88 (Jan.) 1926

Methods for Increasing Antitoxin Production. G. Ramon.—p. 1.
*Hypersensitization in Tuberculosis. A. Boquet and L. Nègre.—p. 11.
Favoring Influence of Antiserums on Cultivation of Micro-Organisms. M. Nicolle and E. Césari.—p. 43.
Research on Contagious Ecthyma in Sheep and Goats. H. Jacotot.—p. 49.
Experimental Research on Anthrax. C. Hruska.—p. 62.
*Experimental Leprosy in Monkeys. J. Reenstierna.—p. 78.

Hypersensitiveness in Experimental Tuberculosis.—Boquet and Nègre inoculated guinea-pigs and rabbits with tubercle bacilli. This was followed after a certain time (Debré's ante-allergic period) by a manifest reaction of the animals to injections of tuberculin or bacilli bodies. This sensitization did not seem to be connected with the appearance of specific tubercles, as it occurred with nonvirulent tubercle bacilli, killed bacilli or their proteins, as well as with living and virulent bacilli. The hypersensitization usually coexisted with immunity, somewhat preceding the latter. In animals injected with killed bacilli, paratuberculous or avian tubercle bacilli, the hypersensitization did not seem to be accompanied by any appreciable immunity. Evidently immunity and hypersensitivity are two distinct conditions in organisms infected with tubercle bacilli.

Experimental Leprosy in Monkeys.—Reenstierna induced leprosy in five of seven monkeys inoculated with bacilli from patients with untreated leprosy. Characteristic nodules appeared after an incubation period of from thirty-seven to forty-five days; they persisted from forty to sixty-two days. One nodule still persists up to seven months since the inoculation. The clinical course and histologic aspect of the nodules were identical with those in man. Reinoculation, made about seven months after clinical recovery, showed that there was no immunity. Emulsions of these nodules, injected in new monkeys, did not induce the disease. Several colored illustrations are given.

Archives de Médecine des Enfants, Paris

29: 5-72 (Jan.) 1926

*Echinococcosis of the Lung in Children. L. Morquio.—p. 5.
Nephritis with Hypertension in a Boy. Bibent and P. Bézy.—p. 32.
Congenital Syphilis in a Tuberculous Girl. W. Mikulowski.—p. 36.
*Honey in Infant Feeding. J. Comby.—p. 46.

Hydatid Cyst of the Lung in Children.—Morquio has now a record of 112 cases of hydatid cyst of the lung in children. The disease occurred chiefly in rural districts and was more frequent in boys than in girls, but never was observed under the age of 4 years. Most of the children were from 8 to 12 years old. Sometimes it was associated with echinococcosis of the liver; in most of the cases it was primary and isolated; usually one cyst; rarely two or three, or even four. The cysts developed in one or both lungs. This suggests that the parasite may have entered by way of the respiratory tract, not always by the digestive tract. The affection may be confounded with pulmonary tuberculosis or pleurisy. The diagnosis is easy if, regardless of physical signs and hemoptysis, the general condition remains good. Roentgenograms may sometimes reveal the presence of the cyst; exploratory puncture is more valuable. The cyst developed in three or four years, gradually extending from the center of the lung to the periphery. It did not show any tendency to generalization. The cyst was expelled in most of the cases with a spontaneous vomica. Its rupture followed a trauma or general disease, especially of the respiratory apparatus. It is possible that fatigue or emotion may also induce rupture of the hydatid cyst. After the vomica the cure was manifest in 90 per cent at least, and the recovery seemed to be definite. Medical treatment is of no avail; expectant treatment should be preferred even to an operation. He cured one grave case by an artificial pneumothorax. The large cavity became rapidly obliterated.

Honey in Infant Feeding.—Comby thinks that honey, so commonly used in the old times, is now forgotten too much. He emphasizes its content in easily assimilated carbohydrates, vitamin B, calcium and iron phosphates, also formic acid. It has laxative properties, and keeps indefinitely. Therefore he recommends honey especially in infant feeding and for all children. He refers to King's account of a Swiss sanatorium, where weakly infants are fed with warm raw milk with honey. The amount of the latter is gradually increased from half a teaspoonful to a tablespoonful, twice a day. No other food is given. About 200 infants thus treated showed a marked increase of weight and hemoglobin. The tolerance for the honey was perfect.

Bulletin de l'Académie de Médecine, Paris

95: 57-81 (Jan. 19) 1926

Filtrable Forms of Tubercle Bacillus. H. Durand.—p. 75.
Increase of Insanity. R. Benon.—p. 79.

95: 83-97 (Jan. 26) 1926

The Recording of the Heart Sounds. Lutembacher.—p. 91.
Neuropathology and Emotions. G. Dumas.—p. 92.
*The Phrenic Sign in Appendicitis. M. O. Iliescu.—p. 96.

The Phrenic Sign in Appendicitis.—Iliescu calls attention to what he says is a new sign of appendicitis, namely pain from gentle pressure on the right phrenic nerve in the neck. The tip of the finger is applied to the center of the triangle formed by the two branches of the right sternocleidomastoid muscle. The sign was positive in all his 150 cases of acute or latent appendicitis. It was negative in suppurations of the adnexa, and in catarrhal salpingitis. A positive phrenic sign with right adnexitis revealed the coexistence of appendicitis. The sign was positive with gastric and duodenal ulcer secondary to appendicitis, and also in peritonitis connected with appendicitis. It disappeared under ice applied to the appendix, and reappeared with the flaring up of the disease. The disappearance of the sign was definite after operation. The tenderness may be ascribed to an ascending right lymphangitis, irritating the phrenic nerve on that side.

Bulletin Médical, Paris

40: 63-82 (Jan. 16) 1926

Erythromelalgia. C. Achard.—p. 69.
*Syphilis of Salivary Glands. R. Girard and I. Trigher.—p. 72.

Syphilitic Disease of the Salivary Glands.—Girard and Trigher report two cases of secondary syphilis with involvement of the salivary glands. There was apparently no connection with lesions of the mouth, since in one instance the buccal mucosa seemed healthy. Trismus, enlargement of the parotid glands, with or without that of the submaxillary glands, and excessive discharge of saliva, to such an extent as to prevent sleep, were the main symptoms. Under combined neo-arsphenamine and mercury treatment the whole clinical picture subsided in a few days.

Bulletins de la Société Médicale des Hôpitaux, Paris

50: 33-62 (Jan. 15) 1926

*Syphilitic Disease of the Spine. Sicard et al.—p. 33.
*Migraine with Tetany. C. J. Parhon and G. Werner.—p. 41.
*Absence of the Xiphoid and Syphilis. Sézary et al.—p. 47.
Spontaneous Detachment of Pleural Adhesion in Course of Artificial Pneumothorax. Mme. Y. Pouzin-Malègue.—p. 52.
*Symptomatic Hemophilia. P. Emile-Weil and Stieffel.—p. 55.
Epidemic Form of Pneumonia. Armand-Delille and Vanbockstael.—p. 59.

Spinal Syphilis of Pseudotumor Form.—Sicard, Haguenau and Lichtwitz report four cases of spinal syphilis in which the lumbosacral region was affected in two, the lumbodorsal in one, and the dorsal in one. The cerebrospinal fluid in two cases was yellowish, while in the others there was an increase of albumin with lymphocytosis. Roentgenograms, under iodized oil control, revealed the presence of meningeal adhesions in the two with xanthochromia, but under specific treatment the adhesions disappeared. The pathologic signs of the cerebrospinal fluid subsided only very slowly under intensive specific treatment. The patients were from 26 to 46 years old.

Migraine Associated with Tetany.—Parhon and Werner describe a third case of ophthalmic migraine associated with tetany spasms. This patient was a woman, aged 28. The coexistence, among other signs and symptoms, of decayed teeth, pruritus, and falling out of the hair suggested a possible thyroparathyroid insufficiency, with subsequent disturbance of the calcium metabolism. There was only transient improvement under thyroid treatment. Parathyroid extract did not display any favorable effect, but this may be observed likewise in experimental parathyreoprival tetany.

Absence of Xiphoid Process and Congenital Syphilis.—Sézary, Vibert and Godel's observations include 226 children, aged from 4 to 14 years. Absence or extreme atrophy of the xiphoid process was found in 20 per cent; in 58 per cent of the children with congenital syphilis. This deformity existed also in both father and mother in one instance; in the mother alone in eleven; in brothers or sisters in five. It was more frequent in girls than in boys. It is possible that atrophy of the xiphoid process, passing from generation to generation, will finally cause its disappearance in man.

Grave Hemophilia with Jaundice.—Emile-Weil and Stieffel treated a woman, aged 27, with jaundice from gallstones and cholangeitis. Examination revealed a hemogenia-hemophilia syndrome, the coagulation time being over three days, the bleeding time about fourteen minutes. Three transfusions of 300, 350 and 250 cc. of blood were given to prepare for the indispensable operation on the common bile duct. This transformed the patient's blood; the coagulation time became gradually reduced to thirty minutes and the bleeding time to from six to fourteen minutes. The gallstone operation was then ventured, and she made a smooth clinical recovery without excessive hemorrhage. The acute and curable hemophilia was evidently symptomatic, from the infection and obstruction in the biliary apparatus. They know of two other instances of symptomatic hemophilia, one in their own experience (fatty hypertrophic cirrhosis in a tuberculous patient), and Paisseau, Ceyla and Hamburger's case, occurring in syphilis and cured by specific treatment.

Comptes Rendus de la Société de Biologie, Paris

93: 1557-1692 (Jan. 5) 1926. Partial Index

*Action of Heat on Hemolytic Blood. P. Emile-Weil and Stieffel.—p. 1560.
*Microbes in Infants' Intestines. S. Dreyfus.—p. 1566.
Rejuvenation from Vasectomy in a Dog. V. Bergauer.—p. 1575.
*Amino-Acids in Effusions. M. Loeper et al.—p. 1579.
*Sulphur in Effusions. M. Loeper et al.—p. 1580.
*Bile and the Bacteriophage. P. Caublot.—p. 1583.
*Neuromuscular Conduction and Chronaxia. M. Lapicque and C. Veil.—p. 1590.
*Bile in Inoculation with Herpes. P. Remlinger and J. Bailly.—p. 1604.
*The Alexin of Serums Kept on Ice. Pierret and Breton.—p. 1612.
*Seroflocculation and Infection. V. Georgesco.—p. 1617.
*Intradermal Reaction in Scarlet Fever. M. Ciuca and E. Manoliu.—p. 1618.
*Bile Culture for Diagnosis of Typhoid. I. Alexa and G. Munteanu.—p. 1619.
*Cholesteremia in the Insane. I. Ornstein.—p. 1622.
*The *p*H of the Blood in Rats. N. Laclau and R. Rabinovich.—p. 1635.
*Calcemia and the Thyroid. M. R. Castex and M. Schteingart.—p. 1636.
*Creatine of the Muscle. A. Schwartz and A. Oschmann.—p. 1645.
*Ethylene Anesthesia. M. Nicloux and A. Yovanovitch.—p. 1657.
*Reduction of Methemoglobin and Oxyhemoglobin. M. Nicloux and J. Roche.—p. 1659.
*The Glucose of the Urine. E. Moeller.—p. 1680.
*"Insulin Complement." C. Lundsgaard and S. A. Holbøll.—p. 1687.

Action of Heating on Hemolytic Power of the Blood.—Holding the forearm for an hour in water at a temperature of 40 to 50 C. (122 F.) materially reduced the hemolytic power of the blood serum in two patients with hemoglobinuria. A ligature was applied above the elbow, as for the Ehrlich test. Emile-Weil and Stieffel believe that this influence of heat might possibly be utilized in treatment of hemoglobinuria.

Intestinal Flora of Infants Under Mixed Feeding.—The stools of breast-fed infants, given also cow's milk, contained putrefaction microbes. Their amount paralleled that of the casein in the milk. This was observed with sterilized as well as with pasteurized or merely boiled milk. Less microbes were found with condensed milk, since there is less casein than in the ordinary cow's milk. Dreyfus adds that the tolerance for cow's milk was higher in the infants above the age of 6 months.

Passage of Amino-Acids and Sulphur from Effusions into Blood.—Loeper, Decourt and Lesure noted an exaggerated amino-acid content of the blood of patients with pleurisy, corresponding to that in the pleural effusion. This was observed also with sulphur.

Bile and the Bacteriophage.—Caublot's research was made on a patient with dysentery bacilli in pure culture in the urine. A bacteriophage strain had been adapted to the bacillus; and the patient had been successfully treated. Then the bacteriophage was treated with bile and kept in ampules. The dysentery recurred after a five month's improvement. The bacillus in the urine proved to be identical with that in the first attack. Cultures of the bacillus, exposed to the conserved bacteriophage, demonstrated that the lytic property of the latter had remained unchanged. Blood cultures in typhoid are said to be more rapidly positive in the presence of bile. It is evident, therefore, that bile promotes the growth of certain bacilli, but that this action is not due to any inhibition of the lytic power of the bacteriophage.

Nerve and Muscle Conduction and Chronaxia.—Lapicque and Veil state that the speed of nerve and muscle conduction was inversely proportional to the chronaxia in leeches and earth worms, in their research.

Contamination with Herpes Virus by Digestive Tract.—An emulsion of the brain from a rabbit that had died from herpetic encephalitis was given by the mouth to rabbits. Some of the animals ingested the emulsion alone, some after ingestion of bile. Death from herpetic encephalitis occurred in ten of eleven given the emulsion and bile; only in two of eleven given the emulsion alone. The grave infection in the bile-treated animals may be ascribed to the injury of the intestinal mucosa from it.

Availability of Rabbit Serums for Fixation Tests.—Pierret and Breton relate that while guinea-pig serums kept on ice lost 60 per cent of their complement fixation power in eight days, and 90 per cent in fifteen, rabbit serums kept the same way did not change at all. Their alexin value sometimes even increased by 1 or 2 per cent. This, as well as the dilution resistance of rabbit serum, demonstrates its value for complement fixation tests.

Serum Flocculation in Infections.—Flocculation occurred in all the serums from eight patients with cerebrospinal meningitis and from eighty-five with typhoid fever, in presence of a mixture of benzoin and an extract of the specific microbe. The serum from 295 syphilitics constantly showed flocculation in presence of a mixture of benzoin with the Bordet-Ruelens antigen. The flocculation does not destroy the agglutinating property of the serum in cerebrospinal meningitis and typhoid. These facts, Georgesco states, confirm Dujarric de la Rivière, Gallerand and Roux's findings.

Intradermal Test in Scarlet Fever.—Ciuca and Manoliu studied ten strains of hemolytic streptococci isolated from the blood or pus of scarlet fever patients. Filtrated cultures of the coccus were injected intradermally in ninety-four subjects at different stages of scarlet fever, in sixty-one with other infections, and in five healthy subjects. The intradermal reaction was positive in all, except only those in a state of anergy. They conclude from this that intradermal tests with hemolytic streptococci cannot be used for diagnostic purposes. They used partly the filtrate from cultures in dextrose bouillon, partly the same fluid diluted 1,000 times. The reactions with the latter were milder.

Bile Culture in Diagnosis of Typhoid.—Alexa and Munteanu aspirated the bile and used it for cultures, in thirty typhoid patients or convalescents. The results were positive in twenty, in ten during the disease, in eight convalescents, and in two clinically recovered. In the latter, the blood culture, and the serodiagnosis as well as examination of stools and urine were negative. Therefore the diagnostic use of the duodenal tube may be especially indicated in cases of typhoid carriers, in which other bacteriologic methods fail to reveal the bacillus.

Cholesteremia in the Insane.—Ornstein found an exaggerated amount of cholesterol in the blood of patients with chronic alcohol intoxication or mental confusion; less in senile dementia, pellagra, emotional psychoses and general paresis. The amount of cholesterol was reduced in the feebleminded, and in epilepsy and dementia praecox.

The p_H of the Blood in Rats with Sarcoma.—Laclau and Rabinovich's purpose was to determine the hydrogen ion concentration of the blood in rats with transplanted sarcoma. The tumor did not seem to influence the reaction of the blood.

The Calcium of the Blood and the Thyroid.—Castex and Schteingart did not observe any relations between the calcium of the blood and an increased or reduced functioning of the thyroid in their twenty-four cases. The disturbances from calcemia are probably due to changes induced in the vagosympathetic system.

Creatine of the Muscle and the Muscle Tonus.—Schwartz and Oschmann noted that the creatine content in striated muscles of frogs was neither decreased during atony nor increased during contraction.

Distribution of Anesthetics in the Blood.—Nicloux and Yovanovitch induced anesthesia of dogs with ethylene. There was evidence that from 70 to 80 per cent of the anesthetic was fixed in the blood corpuscles, and from 20 to 30 per cent in the plasma. This affinity for the blood corpuscles testifies that ethylene is a general anesthetic.

Susceptibility of Methemoglobin and Oxyhemoglobin to Reducing Agents.—Nicloux and Roche conclude that oxyhemogblobin is more susceptible to the reducing action of sodium hydrosulphite than methemoglobin.

The Glucose of the Urine.—Moeller recalls Lundsgaard and Holbøll's statement that the glucose in the blood of healthy persons is in the form of "neo-glucose", in grave diabetes it is in the form of alpha-beta glucose, in mild diabetes both glucoses are present. Analysis of the urine in three cases of grave diabetes and six of the mild form indicated that neoglucose and alpha-beta glucose are both eliminated by the kidneys.

Presence of Insulin Complement in Animal Muscle.—Lundsgaard and Holbøll found in the muscle of animals a substance or principle transforming alpha-beta glucose into neo-glucose, in the presence of insulin. They call it 'insulin complement."

Paris Médical

59: 101 116 (Jan 30) 1926

The Syphilitic Chancre. Milian.—p. 101.
*Hysteria with Convulsions or Epilepsy. A. Rouquier and H. J. Vuillaume.—p. 104.
Malignant Lymphocytoma of Mediastinum. Liegeois and Foulon.—p. 110.
*"Mental Prophylaxis" and Family Placement. A. Rodiet.—p. 114.

Hysteria and Epilepsy.—Rouquier and Vuillaume discuss the differential diagnosis of convulsions in hysteria and their association with true epilepsy.

Mental Hygiene and Prophylaxis.—Rodiet describes the workings of Toulouse's consulting service for the mentally sick and the service for securing a home in some family for convalescents from mental disease after dismissal from institutions. The majority of such patients are of country origin, and the family placement service was organized in a rural district (Lurcy). The patients agree to remain for three months at least, and they are provided with work on the farms and are encouraged to settle down permanently in the country. They are under supervision of some retired farmer who helps them to become self-supporting in time. Their board is paid by the state. If the local physician finds a tendency to a relapse or acute exacerbation, there are infirmaries and an asylum in the district, all linked in an extensive system for care of the insane, to relieve the institutions at Paris acutely overcrowded since the war. The family placement system was introduced in this district (Dun and Ainay) in 1893, and this extension of open door or free family placement completes the system of mental dispensaries in the city, providing a home for these uprooted beings. The address of the Société de patronage des aliénés guéris is 75, rue du Château-des-Rentiers, Paris.

59: 117 140 (Feb 6) 1926

The Microradioactivity of the Potassium Element in Biology. H. Zwaardemaker.—p. 117.
*Roentgenotherapy for Surgical Tuberculosis. L. Edling.—p. 127.
Necrosis of Jaw from Radioactive Substances. A. Lacassagne.—p. 132.
*Roentgen Ray Treatment of Sterility. H. Caufman.—p. 135.

Roentgen-Ray Treatment of Surgical Tuberculosis.—Edling states that a cure was realized under roentgenotherapy in 73 per cent of 270 cases of enlarged glands, and 14.8 per cent were improved. Excellent results have been published by others with roentgen treatment of shoulder and elbow joints, but conditions are less favorable for it in the knee and ankle.

Roentgen Ray in Treatment of Sterility from Ovarian Disturbance.—Caufman treated a woman, aged 27, with irregular menstruation, amenorrhea alternating with metrorrhagia. The patient had been married for eighteen months, without conception. Roentgen rays were applied on two successive days, half a superficial skin dose for each ovary. The lumbosacral region was exposed as well as the abdomen, from navel to pubis. The treatment was followed by three normal menses, then pregnancy. The abnormal menstruation in this instance was evidently due to abnormal relations between the ovarian and uterine functioning. Here the roentgen ray may prove effectual, while it is contraindicated in primary amenorrhea or atrophy of the ovary, of infectious origin.

Presse Médicale, Paris

34: 97-112 (Jan 23) 1926

*Thrombosis of the Auricle. G. Aubertin and G. Rime.—p. 97.
Forensic Medicine and Psychanalysis. Minovici and Westfried.—p. 98.
*Cerebrospinal Meningitis. J. Chalier and Schoen.—p. 99.
Fistulas After Appendectomy. R. Bonneau.—p. 101.
The Social Significance of Surgery. T. Tuffier.—p. 107.

Diagnosis of Thrombosis of Left Auricle.—Aubertin and Rimé describe the clinical syndrome which suggested obliteration of the left auricle in their two cases. It included cyanosis of the toes, fingers and nose, feeble pulse, very faint oscillometer record, and absence of the first heart sound, as well as dyspnea and arrhythmia. The dilatation and consecutive insufficiency of the left auricle had induced formation of blood clots which, gradually increasing, finally filled up almost the whole auricle, thus obstructing the mitral orifice. Notwithstanding the agonal clinical picture, the course was relatively slow, death occurring in one instance after nine days, in the other after five.

Cerebrospinal Meningitis with Meningeal Hemorrhage.—In Chalier and Schoen's two patients the cerebrospinal fluid looked like plain blood. These were cases of meningococcus epidemic cerebrospinal meningitis. Antiserum treatment, not begun until late, did not prevent the fatal outcome in a few weeks. Favorable results may be expected from early and intensive administration of antimeningococcus serum. Lumbar puncture with intraspinal injection of 30 cc. of the serum is indicated twice a day, combined with 30 cc. by the vein.

34: 113-128 (Jan. 27) 1926

*Mechanism of Paroxysms in Angina Pectoris. D. Daniélopolu.—p. 113.
*Grafting in Knee Joint Disease. D. de Frenelle.—p. 117.
Anaphylaxis and Menstruation. H. Vignes.—p. 119.

Pathogenesis and Surgery of Angina Pectoris.—Daniélopolu ascribes the paroxysms of angina pectoris to a disproportion between the work of the heart and its blood supply. This may be induced by an effort as well as by lesions of the coronaries or aorta. Fatigue of the heart favors formation of toxins which stimulate the sensory fibers of the myocardium, inducing a pressor reflex of the heart and aorta. This reflex accelerates the heart contractions and raises the blood pressure, entailing a continuous increase of the toxins—a pressor reflex vicious circle—until the characteristic pain occurs. He advises surgical division of certain sensory fibers of the heart and aorta—the ones that conduct this reflex—while the accelerators and the stellate ganglion should be respected.

Bone Transplantation in Knee Joint Disease.—Dupuy de Frenelle uses a bone implant for treatment of knee joint disease in adolescents. Two grafts, taken from the tibia, are implanted laterally beneath the periosteum, after resection of *the diseased bone. He gives a detailed description of the* technic with nine illustrations.

34: 129-144 (Jan. 30) 1926

Danger of Inoculation of Chest Wall in Puncture of the Pleura. Tixier and Pollosson.—p. 129.
Carbon Dioxide Snow in Skin Diseases. L. Lortat-Jacob and P. Legrain.—p. 131.
Pathogenesis and Treatment of Volkmann's Disease. J. Sénèque. —p. 133.
The Distribution of Tuberculosis in the World. S. Abbatucci.—p. 139.

34: 145-160 (Feb. 3) 1926

*Intraspinal Anesthesia. T. Jonnesco.—p. 145.
The Duodenal Tube in Gastroduodenal Disease. Chabrol et al.—p. 147.

Technic for Intraspinal Generalized Anesthesia.—Jonnesco has used exclusively intraspinal anesthesia in 6,200 operations within the last eighteen years. He states that there was no fatal outcome or any untoward complications. He ascribes these excellent results to the technic employed. Stovaine, mixed with caffeine and sodium benzoate, is injected with a very thin needle. He injects in a cervicodorsal puncture, for a high operation, from 0.03 to 0.06 Gm. of stovaine, 0.50 Gm. of caffeine and from 0.65 to 0.70 Gm. of sodium benzoate, in 2 cc. of sterilized water. In dorsolumbar puncture for abdominal operations, he injects in 1 cc. of water from 0.04 to 0.08 Gm. of stovaine, 0.20 Gm. of caffeine, and 0.30 Gm. of sodium benzoate. In operations on the thorax, the dose is fractioned and injected with two punctures at the high and the middle points. In gynecologic operations, two injections, the dorsolumbar and the low lumbar are indicated, half of the solution being injected at each puncture. In cases in which postoperative retention of the urine is feared, caffeine may be replaced by strychnine. The dose of stovaine should be reduced in patients with unsatisfactory general condition.

Anales de la Facultad de Medicina, Montevideo

10: 741-816, 1925

*Classification of Meningococci. E. M. Claveaux.—p. 741.
*Visualization of the Gallbladder. P. A. Barcia et al.—p. 763.
Work in Treatment of Mental Disease. Garmendia and Darder.—p. 783.
Experimental Study of Chronic Traumatism. C. Stajano.—p. 792.

Classification of Meningococci of South America.—Of the thirty-five strains of meningococci cultivated from the cerebrospinal fluid, fifteen were from Montevideo, ten from Brazil and nine from Buenos Aires. The type most frequently found was type 3 of the American classification, then type 1. Of the French classification, type D predominated. The various tests and passages through animals confirmed that all the types closely resemble each other; they differ mainly in the agglutination property, and this is not vital. All show a mixture of different antigens, consequently Claveaux advocates a polyvalent antiserum, urging that the antiserums should be made from the largest possible number of autochthonous strains.

Visualization of the Gallbladder.—Barcia, Menéndez and Leborgne *give forty-two fine roentgenograms, mostly serial,* after intravenous or oral administration of tetraiodophenolphthalein, and expatiate on the instructive findings as to conditions in the upper right quadrant of the abdomen.

Archivos Lat.-Amer. de Pediatría, Buenos Aires

19: 1127-1218 (Oct.) 1925

Liver Abscess in Boy Aged 12. Navarro and Beretervide.—p. 1127.
*Pneumococcus Epidemic in the New-Born. Garrahan and Bettinotti. —*p. 1133.*
Influence of Disease of Upper Respiratory Passages and Lymphatics on Development of Children. Martino.—p. 1142.
Influenza with Extreme Somnolency in Children. Fernández.—p. 1155.
Radial Paralysis After Preventive Antitetanus Serotherapy. A. Carrau. —p. 1158.
*Congenital Heart Defect. Alice Armand Ugón.—p. 1163.
*Acute Chorea During Epidemic Poliomyelitis. J. M. Estapé.—p. 1166.
*Acute Encephalitis in Whooping Cough. Bonaba and Leunda.—p. 1170.
*Convulsions in Cyclic Vomiting. E. Portú Pereyra.—p. 1174.
Tetanoid-Comatose Form of Acetonemic Vomiting. V. Zerbino.—p. 1177.

Pneumococcus Infection of the New-Born.—Garrahan and Bettinotti discuss an epidemic of pneumococcus infection in six new-born infants in a period of three months at the Rivadavia maternity. Only one survived; the five others succumbed to meningitis or pneumonia in a few days. In one case a forceps injury of the eyeball was the portal of entry of the infection, the pneumococcus being cultivated from the conjunctiva. One of the mothers had influenza.

Congenital Heart Defect in an Infant of Mongolian Aspect.—Recurring attacks of cyanosis testified to some abnormal communication between the ventricles in the young infant. The attacks seem to be decreasing in frequency.

Epidemic Poliomyelitis and Chorea.—Three cases of acute chorea developed in children of about 7 in the course of a prevailing epidemic of acute anterior poliomyelitis. There was no history of febrile rheumatism, syphilis, congenital or acquired, nor degeneracy, and nothing to suggest epidemic encephalitis. By exclusion, Estapé assumes that the chorea in these cases was a manifestation of the epidemic poliomyelitis virus. He offers this as a "working hypothesis or, rather, working prosthesis."

Acute Fatal Encephalitis in Whooping Cough.—Bonaba and Leunda encountered two cases of this kind within three days. The patients were children between 2 and 3. In the course of whooping cough without complications, they suddenly developed convulsions which continued without intermission for three and eight hours until death brought relief. Influenza and epidemic poliomyelitis were prevailing at the time. Necropsy in one case revealed acute congestive encephalitis.

Cyclic Vomiting.—Portú Pereyra relates the case of a boy, aged 5, who suddenly developed intense convulsions, followed by profound coma, after eating a little fruit. Vomiting persisted for forty-eight hours. He had had two similar attacks before but none so serious. Acetone and diacetic acid were found in the urine but not in the spinal puncture fluid. He was given nothing but water and a 3 per cent solution of bicarbonate, and by the fourth day had recovered. In Mackenna's forty-five observations of acidosis in children, there was no instance of convulsions, but Zerbino reports a case of a grave tetanoid-comatose acetonemia syndrome in a child of 3. There was no vomiting and no urine, and the child died the next day.

Archiv für Kinderheilkunde, Stuttgart

77: 1-160 (Dec 31) 1925

*Weight Curves of Infants. W. Stoeltzner.—p. 1.
Acquired Dextrocardia in Pulmonary Tuberculosis. Meyerstein.—p. 4.
Gas and Iodine Metabolism in Puberty Goiter. A. Eckstein.—p. 14.
*Spider-Web Clots in Nontuberculous Meningitis. H. Post.—p. 23.
Biology of Oxyuris. G. L. Langhans.—p. 27.
Congenital Syphilis. E. Flusser.—p. 38.
Necrotizing Inflammation of Tooth Bud. O. Baumler.—p. 52.
*Treatment of Jaundice of the New-Born. H. Slobozianu.—p. 58.
Case of Hystero-Epilepsy. J. S. Galant.—p. 64.
Ponndorf Vaccination Against Tuberculosis. H. Weissenberg.—p. 72.
Defect in Skull Without Hernia. K. Ehrhardt.—p. 94.
So-Called Scaphoid Scapula. H. Fleischer.—p. 98.
Congenital Elephantiasis. W. Brand.—p. 101.
"Significance of Vitamins." Schmitt.—p. 104. Reply. Reyher.—p. 114.
Action of Minerals and Vitamins. E. Müller.—p. 122.

Weight Curves of Infants.—Stoeltzner points out that the weight of infants does not increase regularly, which is especially evident, when recorded daily. A decrease of 5 Gm. is frequent and is not abnormal, if the increase averages 25 Gm. The change of weight is only the result of the two divergent tendencies. Consequently the actual gain in weight is always smaller than the tendency to gain. The latter, as well as the tendency to lose, may be estimated better by taking the average of the daily (instead of weekly) gain or loss. Both tendencies are independent. Undernourishment inhibits usually only the gaining tendency, if it does not last long. In nutritional disturbances of a moderate degree, both tendencies are exaggerated at first. The balance is higher than normal. Similar interesting data might be obtained by analysis of the weight curve in other conditions.

Spider-Web Clots in Nontuberculous Meningitis.—Post concludes that spider-web clots occur not infrequently with epidemic and sometimes even with a serous meningitis. They form more rapidly (in two hours) and are thicker—because of the adsorption of leukocytes—than in tuberculous meningitis.

Treatment of Jaundice of the New-Born.—Slobozianu gave daily 0.1-0.2 Gm. of cinchophen, in suppositories, in jaundice of the new-born. The duration of the jaundice was shorter than in untreated infants.

Jahrbuch für Kinderheilkunde, Berlin

111: 127-250 (Jan.) 1926

*Goat's Milk Anemia. E. Glanzmann.—p. 127.
*Muscular Exercise and Hardness. H. Opitz and H. Isbert.—p. 165.
*Hardness of Muscles After Recuperation Treatment. H. Opitz and H. Isbert.—p. 177.
*Whooping Cough. F. v. Szontagh.—p. 185.
Intelligence Tests. J. Schlesinger.—p. 195.
*"Jecorized" Milk in Rickets. P. György.—p. 201.
Anaphylactic Skin Phenomena. A. S. Sokolow.—p. 211.
Bismuth and Blood Changes. Andreas Tüdös and P. v. Kiss.—p. 219.
*Chvostek's Phenomenon. J. Stargardter.—p. 225.

Goat's Milk Anemia.—Glanzmann observed goat milk anemia only in neighborhoods where the goats were kept in dark stables and did not get good fresh fodder. The anemia resembled the pernicious type (high color index, low percentage of monocytes, urobilinuria). The milk inducing anemia had usually a strong "buck" odor. He is inclined to incriminate the fats as the cause of the anemia. The vitamin A content of goat's milk was lower than in cow's milk, and the vitamin C content was very low. This accounts for the frequent dystrophy in such infants. It was easier to obtain grave anemia in guinea-pigs by feeding them cow's milk than with goat's milk, but the regenerative changes were strong with the cow's milk, and seemed to be inhibited by the goat's milk.

Muscular Exercise and Hardness.—Opitz and Isbert found in children an increase of about 14 per cent in the hardness of muscles and persisting for ten or fifteen minutes after muscular exercise leading to fatigue. Systematic daily exercise and sanatorium treatment harden the muscles.

Whooping Cough.—Szontagh has never seen a case of infection of other children by a child with whooping cough. He regards it as a symptom of the neuro-arthritic diathesis—especially in the convulsive stage, which, he thinks, is due to the action of some toxin on the cough center. Epidemics of whooping cough alternate with those of measles, and he can find no satisfactory explanation for this. He believes that the activating condition is a contagium volatile.

Irradiated Milk in Rickets.—György treated children with milk and gruels which had been irradiated with artificial sunlight for half an hour to an hour. The milk acquires a taste resembling that of cod liver oil. The symptoms of rickets and tetany disappeared in sixteen of the eighteen children fed with this "jecorized" milk.

Chvostek's Phenomenon.—Stargardter attributes the Chvostek facial phenomenon to spasm of the blood vessels of the nerves. Friction or warming of the cheek arrests the spasm of the vessels as well as the facial phenomenon. The spasm plays also a rôle in tetany—supplementary to the irritability of the nerves due to lowering of the calcium ions of the blood.

Klinische Wochenschrift, Berlin

5: 1-48 (Jan. 1) 1926

The Term "Stimulating Substance" (*Reizstoff*). W. Heubner.—p. 1.
*Field of Vision of Single Eyes. K. Kleist.—p. 3.
*Insulin Fractioning in Children. R. Priesel and R. Wagner.—p. 10.
Phenoltetrachlorphthalein Liver Function Test. U. Franke.—p. 15.
*Roentgen-Ray Treatment of Postoperative Pneumonia. C. Fried.—p. 15.
Sex Character of Hair of Scalp. A. Buschke and M. Gumpert.—p. 18.
Roseola Infantilis. W. Mittelstaedt.—p. 20.
Intrasinal Blood Transfusion. K. Schmitt.—p. 21.
*General Paresis and Mesaortitis. P. Coenen.—p. 22.
"Simplified Respiration Apparatus." A. Hellwig.—p. 23.
Reply. H. Schadow.—p. 24.
"Action of Local Circulatory Disturbances." G. Ricker.—p. 24.
Phenomenon in Precipitation Tests. Friedberger and Ikeda.—p. 24.
Electric Phenomena in Acetyl-Choline Contracture. H. Schaffer and H. Licht.—p. 25.
Idem in Heidenhain's Tongue Phenomenon. Idem.—p. 25.
Serology of Syphilitic Twins. F. von Gutfeld.—p. 26.
Diagnosis of Incipient Tuberculosis. W. Neumann.—p. 27.
*Suicides After War. K. Freudenberg.—p. 29.
Strophanthus Tincture in Chronic Cardiac Insufficiency. D. Pletnew.—p. 46.
Protein Content of Puncture Fluids. J. Kleeberg.—p. 47.

Field of Vision of Single Eye.—Kleist has collected evidence indicating that the differentiation of a layer of the cortical center of vision into two depends on the development of a field of vision common to both eyes.

Insulin Fractioning in Children.—Priesel and Wagner recommend in diabetic children daily two doses of insulin, twelve hours apart. The first is given at the latest at 7 or 8 a. m., and should be larger than the second. The same amount of carbohydrates given in the morning causes a higher glycemia than at noon.

Roentgen-Ray Treatment of Postoperative Pneumonia.—Fried irradiated forty patients with postoperative pneumonia. Only one of them died. He also had fair results in nine cases of pneumonia of other origin.

General Paresis and Mesaortitis.—Coenen found syphilitic mesaortitis in 22 per cent of the 191 general paresis necropsies made in 1908-1914. Among 147 cases from 1915-1925, mesaortitis was present in 42.9 per cent. He discusses the relation to treatment, but admits that his material is insufficient to decide the question.

Suicides After War.—Freudenberg publishes statistics on suicides in Germany between 1911 and 1923. The frequency of suicides in men declined about one third during the war. The figures for women show a slow and steady increase. Age and occupation give other interesting indications on the causes of suicides.

5: 49-88 (Jan. 8) 1926

Basal Metabolism Determination. P. Liebesny.—p. 49.
The Splanchnic-Peripheral Balance and the Permeability of the Vessels. E. F. Müller and W. F. Petersen.—p. 53.
Insulin Treatment of Underweight Children. Priesel and Wagner.—p. 57.
*Scurvy and Chronic Tuberculosis. B. Heymann.—p. 59.
Action of Germanium Dioxide. W. Keil.—p. 62.
*Iodine Reaction of Blood Platelets. Z. v. Rokay.—p. 63.
Histologic Demonstration of Lime. E. Freudenberg.—p. 64.
Visualization of Gallbladder. E. Rachwalsky.—p. 66.
*Bacteriology of Material Contaminated by Proteus. A. Schuback.—p. 67.
*Wassermann Reaction Induced by Injection of Lipoids and Serum. R. Brandt et al.—p. 68.
Tuberculin by the Mouth. A. Rebay.—p. 69.
"Calcium Versus Strontium." Salzmann and Haffner. Reply. Hirsch and Oppenheimer.—p. 69.
Metabolism in Pylorospasm. H. Vollmer and J. Serebrijski.—p. 70.
Glucose as Antidote in Guanidine Poisoning. J. Bakucz.—p. 70.
*Prevention of Congenital Syphilis. H. Boas.—p. 71.
*Mineral and Especially Iron Metabolism. E. Oppenheimer.—p. 76.
Capillary Tonometer. E. Rajka.—p. 87.

Scurvy and Chronic Tuberculosis.—Heymann found no influence of avitaminosis on the course of tuberculosis in guinea-pigs, but the scurvy was accelerated by the tuberculosis. One of the sources of experimental errors, he found, is the fact that some guinea-pigs do not learn to drink water, and die on the dry diet.

Iodine Reaction of Blood Platelets.—Rokay does not consider Stahl's observations on iodophilic clumps in the platelets and megakaryocytes suitable for deciding on the origin of the blood platelets.

Bacteriology of Material Contaminated by Proteus.—Schuback prepares an agglutinating serum, with various strains of proteus bacilli and adds 0.2-0.3 cc. of it to 10 cc. of agar. The serum inhibits the spreading of the proteus all over the plate.

Wassermann Reaction Induced by Injection of Lipoids and Serum.—Brandt, Guth and Müller injected animals with hog serum alone or mixed with lipoids. The serum from these animals reacted only weakly with those antigens which proved best in the Wassermann reaction. The reaction was never stronger than with simple lipoid antigens.

Prevention of Congenital Syphilis.—Boas reviews all the means for prevention of congenital syphilis. Besides other measures, arsphenamine treatment of the mother before and during the pregnancy gave the best results (six healthy children out of seven). Mercury administered during the pregnancy is much less efficient: Of the children from twenty-six mothers who had received arsphenamine before and mercury during the pregnancy, seven of the twenty-six were syphilitic. Only one healthy child was found among 158 born from untreated mothers.

Mineral and Especially Iron Metabolism.—Oppenheimer emphasizes the importance of Baudisch and Web's experiments on the "X factor" of fresh mineral waters responsible for their catalytic and oxidizing action. Very labile compounds of iron—investigated among other methods with roentgen rays—were discovered. They may represent the original form which developed into blood.

Monatsschrift für Geb. und Gynäkologie, Berlin

72: 1-128 (Jan.) 1926

*Secretion and Resorption of Amniotic Fluid. H. R. Schmidt.—p. 1.
Epinephrine Test and Pregnancy Vagotonia. H. Eufinger and L. Heimannsberg.—p. 9.
Pregnancy Ileus. J. Malfatti.—p. 24.
Decidua in Pregnant Tube. R. Zimmermann.—p. 30.
Mechanics of Cell Development. L. Weill.—p. 40.
Injuries of Lower Segments of Sex Organs in Spontaneous Delivery. H. Hinselmann.—p. 43.
Mercury Poisoning by the Vagina. B. Liegner.—p. 47.
Against Sterilizing of Younger Women. K. Neuwirth.—p. 53.
Maternity Welfare Work. A. Martin.—p. 66.
Roentgen Treatment in Gynecologic Inflammations. L. Theodor.—p. 69.
Survey on Roentgen Treatment in Gynecology. Engelbrecht.—p. 81.

Secretion and Resorption of Amniotic Fluid.—Schmidt confirms the theory of secretion of amniotic fluid by the placentar *amnion.* He also agrees with Cramer's opinion that one type of hydramnion may be due to absence of resorption of the fluid owing to some obstruction in the upper part of the digestive tract of the fetus.

Wiener Archiv für innere Medizin, Vienna

12: 1-168 (Jan. 5) 1926

*Cardiac Asthma. S. Wassermann.—p. 1.

New Clinical Points of View on Cardiac Asthma.—Wassermann devotes 168 pages to discussion of the pathogenesis and clinical aspects of cardiac asthma. The typical attacks occur *with insufficiency of the left ventricle,* and have primarily nothing to do with a retrograde stasis: The attack is a reaction of the central nervous system (especially the medulla) to anoxemia. Insufficiency of the aortic valves and infarctions in the left ventricle are the main causes. Morphine, oxygen and nitrites are indicated. The second type of cardiac asthma—due to stasis in the lungs—is characterized by cyanosis, and does not cause an acute increase in blood pressure. Mitral disease is the usual cause. Venesection, digitalis, caffeine, oxygen and, sometimes, small doses of morphine are indicated, although of little help.

Zeitschrift für Tuberkulose, Leipzig

44: 177-272 (Jan.) 1926

Bilateral Pneumothorax. J. W. Samson.—p. 177.
Tuberculosis Infection and Disease in Children. F. Kreuser.—p. 184.
Social Factors in Tuberculosis Mortality. W. v. Friedrich.—p. 193.
*Tuberculosis of the Heart. W. Stefko.—p. 199.
Air Content of the Apices. E. Ladeck.—p. 205.
Antepleural Manometer Oscillations. D. Meerson.—p. 206.
*Temperature and Allergy in Menstruation. G. Gáli.—p. 212.
Meinicke's Test in Sanatoriums. O. Eicke.—p. 218.

Tuberculosis of the Heart.—Stefko found tuberculosis in the heart in 80 per cent of his necropsies of the persons who had died from tuberculosis. He attributes this to the change of the condition of the heart due to the Russian famine. The reaction consists of an epitheloid infiltration, originating in the endothelium of the capillaries, and a subsequent phagocytic action of the newly formed cells, which, however, only removes the waste products. The cellular infiltration in tuberculosis of the heart in cattle is of the fibroblastic type.

***Temperature and Allergy in Menstruation.**—Gáli finds that* menstruation does not influence the temperature, nor the allergic manifestations of tuberculous women.

Zentralblatt für Gynäkologie, Leipzig

50: 193-256 (Jan. 23) 1926

Social Indication in Gynecology. W. Benthin.—p. 194.
*Cancer Statistics and War. F. Kauffmann.—p. 198.
Age and Maturity of Uterine Cancer. L. Ballin.—p. 214.
Extra-Uterine Pregnancy with Cancer of Cervix. J. Batisweiler.—p. 217.
Sterilization by Crushing the Tubes. M. Madlener.—p. 219.
*Errors and Dangers in Pubiotomy. Niedermeyer.—p. 221.
Results of Vesicovaginal Interposition of Uterus. Pollack.—p. 226.
Palpation of Fetal Heart Beat in Hydrops. B. P. Fomenko.—p. 231.
Ileo-Inguinal Neuralgia After Alexander-Adams. H. Küster.—p. 232.
Vesicovaginal Interposition of the Uterus. A. Paunz.—p. 233.

Cancer Statistics and War.—Kauffmann's material consists of about 2,000 cancer cases at Bumm's gynecologic clinic between 1912 and 1923. The maximum incidence of cancer shifted after the war toward the younger women. This indicates, he says, that external conditions have a pathogenetic significance for cancer.

Errors and Dangers in Pubiotomy.—Niedermeyer has changed his previous opinion favoring pubiotomy, and now prefers to widen the indications for cesarean section.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 229-320 (Jan 16) 1926

*Calcium Treatment in Tuberculosis. J Pinkhof.—p. 230.
Ethyl Chloride Anesthesia. W. C. Meiss.—p. 235.
*Acute Salpingitis or Appendicitis? B. S. ten Berge.—p. 243.
*Jaundice in the New-Born. P. H. Kramer.—p. 249.

Calcium in Treatment of Pulmonary Tuberculosis.—Pinkhof has been favorably impressed with the effects of intravenous injection of 5 cc. of a 10 per cent solution of calcium chloride in treatment of febrile cases of pulmonary tuberculosis rebellious to other measures, but with the organism still capable of responding to stimuli. The injections were made three times a week, in three series of twenty injections, and he never witnessed any untoward by-effects in the 100 sanatorium cases (three years; 3,000 injections). In forty cases they were given merely for the subjective influence, as the condition was hopeless, but he was surprised at the unmistakable benefit observed in a few in this group. In forty of the sixty others the improvement was pronounced. The calcium seems to reenforce the general resisting powers, accomplishing a general improvement and thus indirectly influencing the fever. The temperature returned to normal in the first series in twelve patients; the sputum rapidly became more fluid and less in amount, and the physical findings soon changed for the better. No effect from the calcium treatment was apparent in ten cases and ten others failed to complete the course.

Acute Salpingitis Versus Appendicitis.—Ten Berge analyzes twenty-four cases in which the diagnosis wavered between appendicitis and acute salpingitis. His experience shows the necessity for treatment as if for appendicitis in case of doubt; only three in the group proved to have salpingitis instead, and in all these the appendix was more or less involved. In the twenty-one pure appendicitis cases, leukorrhea was common and there was urethritis in three and menorrhagia in eight, and in seven there was pain on pressure to the left, above the symphysis. Three complained of intense pain during vaginal examination. Examination through the vagina and rectum is most instructive in exacerbations of an old process; in a recent infectious process, the adnexa are not much enlarged.

Jaundice in the New-Born.—Kramer found bilirubin in the blood of the umbilical cord in amounts ranging from 1:28,000 to 1:140,000; the average 1:46,000. The van den Bergh indirect reaction was pronounced, but the direct reaction was never observed in the 100 new-born tested nor in a number of other infants a few days old. All with more than 1:36,000 bilirubin presented jaundice, and none of those with 1:70,000 or below. His findings confirm that mechanical jaundice does not occur in icterus neonatorum. There seems to be a progressively increasing bilirubinemia in all mammals for a few days after birth. Destruction of surplus erythrocytes (fetal and maternal) might account for this. He thinks that it represents a reserve supply, like the large iron reserve with which the child is born.

1: 413-508 (Jan. 30) 1926

*Pathologic Glia and the Cell. S. T. Bok.—p. 414.
The Malaria Commission of the League of Nations in Spain. N. H. Swellengrebel.—p. 424.
*Caution in Prescribing Mercurial Ointment. E. J. Hamburger.—p. 432.
*Diathermy in Treatment of Gonorrhea in Women. P. J. van Putte.—p. 437.
*Correction of Hemorrhagic Tendency by Splenectomy. W. Reilingh.—p. 441.
Delivery of Child with Hydrocephalus in Breech Presentation. Van den Berg.—p. 446.
The Conference of the International Public Health Bureau at Paris, Oct. 21, 1926. N. M. J. Jitta.—p. 466.

Pathologic Glia and the Conception of the Cell.—Bok insists that the becoming visible of the glia protoplasm in the Nissl preparation is due to a chemical change in the protoplasm and a slight swelling, a physical change, both of which begin at the nucleus and spread thence, growing progressively fainter. The cells cannot be regarded as individual building stones. The alleged cell is merely the sphere of influence of a nucleus lying in a field of protoplasm, which connects uninterruptedly with the protoplasm of the adjacent so-called cells. The article is illustrated; it issues from the university laboratory at Amsterdam in charge of Bouman. His arguments sustain the syncytium theory of the cells.

General Intoxication from Mercurial Ointment.—Hamburger had ordered gray ointment to destroy crab lice in the pubic hair, but the man applied it as a regular vigorous inunction five times within sixty hours. He then developed symptoms suggesting intestinal invagination or dysentery until the mercurial poisoning was recognized.

Diathermy in Treatment of Gonorrhea.—Van Putte relates that he cured both clinically and bacteriologically ten women with old and rebellious gonorrhea by means of five hours of diathermy in a single day.

Cure of Purpura by Splenectomy.—The special form of grave purpura due to essential thrombopenia was cured at once by the splenectomy in the case described. The bleeding time was forty minutes and there were scarcely any thrombocytes to be discovered before the splenectomy. It was followed by a drop to fourteen minutes at once while the monocytes ran up from zero to a million in about two weeks. The discovery of the thrombopenia in the blood gave the clue for successful operative treatment. The hemoglobin percentage dropped to 50 but gradually rose to 80 in three months.

Hospitalstidende, Copenhagen

69: 29-48 (Jan. 14) 1926

*The Thalamus Syndromes. G. Roussy.—p. 29.

Function of the Thalamus Opticus and the Thalamic Syndromes.—The clinical picture described by Dejerine and Roussy in 1906 as the thalamus syndrome is characterized by the dissociation of the motor and the sensory phenomena; the motor symptoms may subside but the sensory are permanent. Roussy here reviews the other syndromes which may be induced by lesions in or in the vicinity of the thalamus. He has encountered cases confirmed by necropsy in which there was no spontaneous pain, while in other cases emotions, even music, induced pain in the tributary region. He accepts Lhermitte's recent hypothesis that the thalamus is an analyzing organ, a selecting filter for the sensory streams, all of which pass through it. When any essential portion of this analyzing organ is destroyed, the sensory impulses pass onward to the cortex instead of being selectively arrested by the thalamus, as in normal conditions. The hypothalamus syndrome is distinguished by the lack of pains and the presence of cerebellar disturbances. A circumscribed lesion in the corpus striatum causes hypertonia or hypotonia, muscular rigidity or muscular jerking, according to the portion involved. The physiology and pathology of the thalamostriatal centers are proving so important in respect to sensory impulses of all kinds and control of the grouping and combinations of involuntary movements, that we must regard the central ganglion system, he says, as something more than a mere humble servant of the thinking apparatus. This article formed the Rask-Orsted fund lecture delivered by Roussy at Copenhagen recently.

Ugeskrift for Læger, Copenhagen

87: 1193-1202 (Dec. 31) 1925

*Brain Tumor. H. Jessen.—p. 1193.
*Vaccine Therapy for Bronchitis with Asthma. G. Hagens.—p. 1195.
Separate Ampules for the Solution of Procaine and of Epinephrine and Mixture in the Syringe for Local Anesthesia. Sennels.—p. 1196.
Expenditures of Six Physicians' Families in 1922. P. Heiberg.—p. 1197.

Successful Operation for Brain Tumor.—Jessen's patient was a woman, aged 50, who four years before had noticed that she could not use her left leg in bicycling. Other symptoms gradually developed, suggesting a tumor in the motor region, left cerebral hemiplegia, complete for the leg, partial for the arm, bilateral choked disk and impairment of vision, but no jacksonian symptoms. The tumor was found in the right fissure of Rolando, adherent to the dura, but it was easily shelled out from the brain tissue with the finger. It was the size of a mandarin orange and soft, of the endothelioma or meningeoma type. The dura and the skin were sutured, leaving only a small cigaret drain, and no attempt at radiotherapy was made. The outcome surpassed all expectations. Vision is now practically normal in one eye and fairly good in the other, and the hemiplegia has entirely subsided, leaving only a little weakness and persisting impairment of the sense of position in the foot.

Chronic Bronchitis with Asthmatic Attacks.—The middle aged woman had been having chronic bronchitis for nearly five years, with attacks of asthma, the whole so severe that she was confined to bed most of the time. Two intercurrent attacks of influenza had been followed by such marked improvement for a time that Hagens tried autogenous mixed vaccines, aiming to induce fever with them. Benefit promptly followed, the same as after the febrile influenza, and has persisted for three months to date.

88: 79-102 (Jan. 28) 1926

*Pernicious Anemia. H. C. Gram.—p. 79.
*Protein Therapy for Erysipelas. A. Jensen.—p. 87.

Etiology and Pathogenesis of Pernicious Anemia.—Gram presents an array of testimony to sustain his assumption that pernicious anemia is a chronically intermittent intoxication with toxic substances which act on the blood cells in the circulation and in the bone marrow, thus inducing hemolysis and a pathologic regeneration, with lack of myelogenous leukocytes and blood platelets. The toxic substance acts also on the stomach and on the buccal mucosa, inducing glossitis with irritation of the tip of the tongue and atrophy of the papillae, and gastritis with achylia. These changes may occur long before the pernicious anemia becomes manifest. The toxic substance sometimes induces a disseminated myelitis with symptoms in the form of paresthesias and anesthesia. The source of the toxic substance seems to be in the small intestine, and to proceed from the bacteria or from the bothriocephalus therein contained. The abnormal or excessive flora in the small intestine and an increased permeability for the toxin formed or the failure of the toxin-resisting mechanism are essential factors, and these may have a familial or hereditary character. Naturally, any stricture or other lesion impeding bowel function will tend to render the bacterial flora more abnormal and thus start a vicious circle. Any fluctuation in any of the factors may entail a remission.

Protein Therapy of Erysipelas.—In the four cases of erysipelas of the face described, intramuscular injection of 5-10 cc. of cow's milk the second, third or fourth day seemed to arrest the process at once, and a second injection completed the cure. The skin was natural again in six days in one case and had scabbed over in four days in another case.

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INDIVIDUAL VERSUS GROUP RESPONSIBILITY FOR THE CARE OF THE HOSPITAL PATIENT*

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Changing conditions and methods of medical work may necessitate readjustments of the relationship that exists between the physician or surgeon and his patient. Group methods have entered medical practice. Complexity in the technic used in diagnosis and treatment has been one of the causes of the development of these group methods. It is hardly possible for the single individual any longer to do with his own hands all the things needed for the diagnosis and treatment of the individual patient with anything other than a very simple malady, and it is increasingly difficult for him to possess the desirable range of knowledge of medicine to handle alone complicated cases. This is recognized in all varieties of practice by the calling in of consultants, by the utilization of such special methods of diagnosis as the roentgen ray, the determination of a Wassermann reaction and many others, of which these two may serve merely as examples, and by the employment of such special therapeutic methods as the intraspinal injection of serum, transfusion of blood, applications of special forms of heat and radiant energy, and the surgical removal of diseased organs and neoplasms, these few being cited as examples of what might be multiplied almost indefinitely. All of this involves work on the patient by more than one individual and so constitutes group practice. The one constant factor in all these changing conditions is the patient and his need for help. On the one hand, in most instances, there is the group in some form, and, on the other, the patient.

How are these two factors in medical work, the group and the patient, going to be brought together in the most advantageous way? It is perfectly evident that the patient needs to receive advice and direction based on the work of the group, if he is handled by a group. There has to be a responsibility somewhere for getting understood by the patient what he should do in order to improve his physical condition, or, this being impossible, how best to adapt himself to his disability in order to minimize its effect and retard its progression. This very largely resolves itself into some individual of the group assuming a responsible advisory relationship to the patient, for it seems, to say the least, a waste of energy for the group as a whole to assume this responsibility, even were it a feasible arrangement. The more personal and intimate this individual contact becomes, the greater the benefit that the patient is to receive, for it is quite impossible to divorce the influence of the personality of the physician on the personality of the patient from the practice of medicine. If it is done, the therapeutic measures advised for the patient at once lose in their potency. What has been said above applies equally to the patient in and out of the hospital. In the hospital and the diagnostic clinic, group work is apt to be more highly organized than elsewhere, often the reason for the patient's going to a hospital or a clinic is to obtain the benefit of examination by a group. This is particularly true of the hospital or clinic that is operated in large measure as a diagnostic clinic. Here it is that the lack of an individual responsibility to the patient is most apt to be found, whether the problem concerns diagnosis or treatment.

Judging by the expressions of opinion that I have heard from patients about the group method of practice, its greatest defect lies in the feeling of the patient that he has missed a personal interest in himself, and that he suspects that he has not quite understood the results of his examination and has but vague ideas of what it is intended that he should do, largely because no single individual of the group has spent sufficient time considering him and talking to him as a whole organism needing new adjustments. As I myself have subsequently seen patients who have gone to a group for diagnosis, these misgivings of the patient often seem justified. The mistakes that are made appear to have originated usually because the most matured clinician of the group has failed to observe sufficiently long and sufficiently frequently the patient as a human personality in relation to the various diagnostic data accumulated in the group study, and because advice to the patient is given in too hurried a way without opportunity for the patient to ask many questions which he needs to have answered.

To me, group responsibility to the patient seems well nigh an unworkable relationship; individual responsibility is necessary. How is this to be brought about for the hospital patient? It seems to me that some one member of the hospital staff has to bear a responsible interpreting and directing relationship to the patient at every stage of his progress through the hospital; it may not be essential for the same individual to act continuously in this relationship to the patient, though it seems desirable that he should. A good deal will depend on the organization of the hospital and on what has to be done to the patient.

Hospitals, as organized at present, may be divided into several groups: (*a*) hospitals with separately organized services, medical, surgical, etc.; (*b*) hospitals that are primarily for one type of patient, surgical, medical, obstetric, nose and throat, etc.; (*c*) hospitals primarily organized as a diagnostic service through which patients are selected for special forms of therapeutics.

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* Read before the Annual Congress on Medical Education, Medical Licensure and Hospitals, Chicago, Feb. 18, 1926.

In the hospital with separately organized services, one of two plans may be followed: Either each service is a complete organization capable of handling practically all types of patients admitted to it with an occasional request for consultative help from the other services, or it is less independently organized and the request for aid from the other services is generally a part of the management of the patient. It would seem that in either plan a responsible member of the visiting staff should hold a direct advisory relationship to every patient and assume all professional responsibility for that patient, including the responsibility for arranging for the patient to be seen in consultation by whoever can help in arriving at a satisfactory diagnosis and planning an adequate form of treatment. Of this type are the great bulk of the larger hospitals of the land, and in them, as a rule, patients receive very satisfactory care, including such advice from consultants as is needed, and are brought into a responsible relationship to some member of the staff.

The second type of hospital might be termed the special hospital. Usually it is a smaller institution. In smaller towns the hospital is apt to be of this type; particularly is it a surgical hospital. In these hospitals, patients are usually under the care of but one man, and often the hospital differs from the patient's home only in having an operating room attached to it. Probably there are more of this type of hospital than any other in the land. Here there is no question as to who is responsible; necessarily it is individual responsibility. The question is, Does the patient in this type of hospital get sufficient examination and consideration by those with special training and capability over and above what the medical or surgical man in responsible charge can give? That this has to be answered in the negative in many instances all would, I believe, agree.

The third type, the hospital organized primarily as a diagnostic clinic, is on the whole new and not numerous. To many it would seem that this type of organization is likely to be brought into the large majority of our hospitals in the future. In it the problem is largely that of determining who, of a professionally completely adequate staff, shall bear the relationship of individual responsibility to the patient and of providing opportunity and time for this relationship satisfactorily to be carried out. In this type of hospital the organization is primarily intended to provide for each patient the application of all needed diagnostic methods, and the only danger lies in accepting the form of applying many methods as necessarily involving a thorough examination of the patient, and in not integrating the data obtained into an intelligent diagnosis, prognosis and advice as to treatment. There is a danger of allowing the doing of numerous tests, some or many probably done by none too dependable technicians, to take the place of a thorough examination by an experienced clinician. It is well to remember that no multiplication of tests can be regarded as anything other than supplementary to the personal study by such an experienced clinician, and that no experienced clinician can make an adequate study of the patient in a very brief period of time. It would seem necessary, in order that such a hospital function for the best interests of the patient, to have a responsible relationship established between one of the more mature clinicians of the staff and the patient. In such a hospital the surgeon is part of the diagnostic team contributing to diagnosis what his special training fits him for. In addition, he is one of the therapists of the hospital, carrying out in a responsible way the surgical therapeutics advised for the individual patient.

From what has been said, it would seem that in the first and third types of hospitals the patient generally receives adequate service, and that this service is likely to improve under existing plans of organization. Furthermore, generally in the first type there exists a satisfactory personal responsibility to the patients and in the third type the need of such a relationship is recognized, even though it is not actually provided in every instance. The real improvement in this type of hospital must come not from rules of procedure but from securing for the staff men with better professional training. This applies to internists fully as much as to surgeons. For the latter, the ability to operate well should, in my judgment, be regarded as inadequate unless there goes with it the capability to diagnose. As has been so often said, the decision as when to operate and what operation to undertake requires fully as much skill as does the actual operation technic.

It is in the second type of hospital that inadequate service is apt to be rendered the patient; here the relationship of individual responsibility exists but the patient often lacks intelligent use of the technic of special examinations, etc.

Dr. Goldwater tells me that lately several hospitals have been asked to adopt a rule providing that no major operation is to be performed without previous consultation with an internist. I suspect that this has originated from finding that the defects in the second type of hospital, such as I have pointed out, exist and need a remedy. The query is whether the proposed remedy is likely to be effective. Of this I have grave doubts. The requirement of a consultation with an internist before a major operation seems to me illogical. If it implies an inability of the surgeon to make a diagnosis, as it apparently does, it seems to me that the remedy lies in either not allowing such a surgeon to operate at all or in organizing a diagnostic group for which that surgeon merely carries out one form of treatment; namely, surgery. I would question the desirability of the latter arrangement, which would reduce surgery to a merely mechanical form of therapeutics. Would not this type of surgeon, already judged by his hospital to be untrained or unsuited for diagnostic work, be a poor operator because lacking in those qualities of the brain needed of the surgeon fully as well as dexterity of the hand? I think so. Again, in a hospital with a surgeon of such a type one might query whether the consultation of an internist might not be merely perfunctory to fulfil the requirement or unsatisfactory because of lack of training and ability in the internist. Then, too, would it not divide responsibility in an undesirable way? It would seem that it was unfair to expect the internist to assume responsibility for the work of the surgeon, yet, in final analysis, that would seem to be what the rule might be requiring of him.

If the hospital is organized as a diagnostic group, then diagnosis will have been made by the group and treatment should be determined by some one responsible member, presumably in case of surgical treatment by the surgeon member of the diagnostic group. In the large general hospital, especially the teaching hospital, I believe the surgeon would be entirely capable of and should determine when consultation is or is not desirable, and so proceed to operate with or without it as he determined. Not possessing such capability, he certainly should not hold the position. In the smaller, special type of hospital a satisfactory solution of the problem is difficult. The solution, it seems to me, should be along the lines of preventing the work of the surgeon of doubtful ability rather than of trying to decrease the damage he may do by requiring of him a consultation with an internist before undertaking a major operation. Better surgeons and better internists are needed rather than more rules for their conduct in relation to patients.

In any type of hospit [illegible] onvinced that there should be an [illegible] for the care of the patient, not a group responsibility. Numerous ways of selecting the individual for this relation to the patient could be thought of, any one of which would work with complete satisfaction, provided this responsibility is recognized by both staff member and patient and the staff member, selected for the responsibility, is a broadly trained, competent clinician. The method actually adopted needs to fit the varying circumstances of difference in organization and difference in the personality of the personnel. Rules or precedents suited to one institution might easily prove completely ineffective at another place. Consequently it would be unwise for any central body to attempt to draft rules to be applied generally. It is sufficient to insist on an actual individual responsibility to the patient in his professional care.

INDIVIDUAL VERSUS GROUP RESPONSIBILITY FOR THE CARE OF THE HOSPITAL PATIENT *

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Responsibility means the state of being responsible. Our dictionaries define being responsible as: (1) being answerable legally or morally for discharge of a duty, trust or debt; (2) being able to meet obligations, or (3) having a perception of the distinctions between right and wrong.

You may profitably discuss some of the myriad ways care of hospital patients demands responsibility. With your leave, I shall not. We all know they exist and that they have to be met by group or individual. Whether they can be best dealt with by the individual or by the group is our concern.

The precise meaning of our subject is susceptible of varied interpretation, according to the experiences of doctors in their several communities. My discussion must be confined to principles seemingly pertinent, gained in limited personal experience.

A hospital patient first encounters the admitting mechanism. In a sense, this is a group. If it is an emergency case, the patient is at once seen by a physician. His pedigree, civil status, and the estimation as to what sort of a case it is awaits the physician's decision. Soon, however, whether it is an emergency case or not, the pedigree is written by a lay official, a professional record of his illness is begun, and he becomes an object of concern to all, or any, branches of the hospital that may have a contribution to make on his condition. Who, then, shall determine the course of procedure; one physician, in conjunction with any other physicians he may choose to summon, or a group of physicians, who, through their various methods of approach, may be expected to overlook less with their multiple eyes than the individual, with his two?

Is it better to be taken care of by a group of specialists in the hope that the especial lesions one has will more surely come to the attention of the special physicians trained in these lesions, or is it still possible for one physician to determine in a careful history and physical examination what the troubles are and call for special help when needed?

Probably very few in this audience or anywhere would be willing to advocate a too rigid maintenance of either method. Almost surely in every hospital where so-called group responsibility may be supposed to dominate, the individual plays the major part in the individual case quite as much as the individual physician summons aid from his associates where the other scheme obtains.

As inbreeding accentuates good or bad inherent factors, so may an artificial and exclusive selection of one method or the other resemble the little girl with a curl in the middle of her forehead: when it is good, it is very, very good, but when it is bad, it's horrid. It is surely not so much the mechanism by which our patients are cared for as it is the quality of medical care with which they are surrounded

Probably no one here but has had patients who have come from some institution where every conceivable medical analysis has been carried out without clearing a problem requiring only time, ordinary knowledge and common sense to solve Just as true is it that institutes and groups may thrive on the errors of omission and commission of the individual

The recognition of the essential features in a case, that is to say, the art of extracting the essence in medicine, may be done by a group or an individual, if quality is there. Is quality, then, fostered best by the group or by the individual? But is not the group made up of individuals? It certainly is; and where mass production is required, many of the great army of workers may be artists at heart. But, in general, the artist works alone.

Our hospitals, however, are not places where time hangs heavy on one's hands. The pressure is great and patients are plentiful. Work comparable to mass production must be done, though the individual physician balks at the idea that he be restricted to handling but one part in the machine. It is true that a taste and schooling in a special field influences his activities. His main attention, however, should be constantly riveted on the patient as a whole.

Perhaps the chief risk to which a so-called group system exposes itself is a failure to place responsibility on anything that is tangible. Groups melt like a mirage if things go wrong, and a patient with a wholly justifiable complaint may end up begging somebody's pardon for satisfaction.

"From pillar to post," or, in cruder vernacular, "passing the buck," has a meaning requiring no explanation. It is associated with the group plan more than when responsibility is shouldered by the individual. This shelving of responsibility is one of the worst features in hospitals. It is bad for the patient, worse for the nurse, inexcusable for the physician, and a wretched quality of medicine. "The quality of" medicine "is not strained; . . . it is twice bless'd; it blesseth him that gives and him that takes." No man, of course, should attempt medicine unless he is willing to have troubles brought to him, be bothered, and hear tales of woe, for every

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* Read before the Annual Congress on Medical Education, Medical Licensure and Hospitals, Chicago, Feb 18, 1926.

patient has one. I can scarcely believe that the same sense of responsibility can be felt by the individual physician in a group system, when a patient reaches his domain in making his medical journey, as is undertaken when a patient is assigned to some physician who, with the joint action of such associates as he may choose, undertakes to find out what is wrong with the patient and set him straight.

Theoretically, one can figure out that no great difference in assuming responsibility ought to exist between the two methods. But human nature is fallible, and the more tangible responsibility is, the more likely it will be lived up to.

To have group facilities available with an individual assigned the responsibility of the patient as a whole would seem a natural sequence to this line of thought. Indeed, it is pretty much what is being done and is likely to be done for some time to come. Our hospitals in their outpatient departments, in their varied laboratories and services and their consultants, provide group facilities. The mechanism is there. Assign the patient to a physician, let him be transferred, if need be, to another, but let him feel that some one physician is responsible for him. One cannot stop the play of forces in evolution. Our arguments pro and contra will not bring the group system nor retain individual responsibility. We may forearm, however, by forewarning of the dangers of intangible responsibility, and hurry the possession of valuable factors, such as joint thinking and action, by stressing their advantages.

Just as Drs. Sprague and Minchin are compared in Middlemarch: "In short, he had weight and might be expected to grapple with a disease and throw it; while Dr. Minchin might be better able to detect it lurking and circumvent it," our methods as physicians vary and require joint thinking and endeavor. On nearing the woods, however, patients soon look for the trees, and in uncanny fashion come to know which they are, select their favorite oak, dickory, maple or chestnut, seek shelter during storm, shade during heat, and camp 'neath his branches till sundown. Let him shirk this responsibility, and he is no physician.

The effectiveness of a group of physicians in a hospital depends on their degree of intellectual sympathy. Whether they agree, or agree to disagree, do they talk the same language? "It is not enough to have earned our livelihood. Either the learning itself should have been serviceable to mankind, or something else must follow."

Our hospitals have the mechanism for using groups or individuals. Have they the men? If they have, the mechanism matters less than we think.

"'What d'ye think about it?' asked Mr. Hennessey.

"'I think,' said Mr. Dooley, 'that if th' Christyan scientists had some science an' th' doctors more Christyanity, it wudden't make anny diff'rence which ye called in—if ye had a good nurse.'"

Though my talk may seem one of compromise, my spirit is not. Let the group or the individual bear our hospitals' responsibility as the evolution in any community or its hospital dictates. Show care in the selection of the individuals, however, that they be in intellectual sympathy and speak the common language of truth. Let responsibility be tangible—best, individual; but, if grouped, preserve personality. Finally, above all, remember: "These men are predestined: if a man love the labor of any trade apart from any question of success or fame, the gods have called him."

THE PURPOSE OF AN INTERNSHIP *

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Universities, medical schools and hospitals are interested jointly in the education of those who will care for the sick, and aid in the prevention and cure of disease. Of the students now in our medical schools, most will soon be engaged in some form of medical care of patients; some will enter administrative positions; others will devote their efforts to study and search for new facts in medicine perhaps entirely apart from patients; but no matter what their field of medical activity, all will be better men as well as physicians if they have the broadening experiences of a hospital internship.

The student entered his medical course after two to four years of study in college which included certain of the sciences, biology, chemistry, mathematics, physics and languages, and thereby presumably had some training in methods of study and thinking. The first two medical years, devoted mainly to the preclinical medical subjects, have given him a good training in the fundamentals of medicine. In his last two medical years he has been in contact with patients for more than half his time. The increased facilities of medical schools afforded by hospital clerkships and enlarged dispensary services, including obstetric services, have brought the student into close contact with patients during these two years, and he no longer receives his first introduction to actual patients on entering on his internship. He has studied to better advantage by reason of his clinical contacts, and is much better prepared up to this point for the practice of medicine than was the student of ten years ago. He is not a high school boy.

It is agreed that he now needs a hospital internship. What should this internship give him? First and foremost it should develop further his character, through close daily contact with attending men of high ideals. He should see by daily observation how honesty, sincerity, sympathy, are combined with knowledge and experience in dealing with the medical and surgical problems of each patient. Here in the hospital he sees more of the joy and of the tragedy of life than anywhere else in the world. He sees life at its best and at its worst, and while still in his formative years acquires that broad sympathy with humanity which physicians more than any others should and must have.

He learns how to get on with crabbed sick folk who might or might not be crabbed if they were well. He puts in practice what he has learned of the uses as well as the limitations of instruments of precision and of clinical and biologic tests, and gets a sense of relative values when he combines them with history and physical examination in the making of a diagnosis. He learns how to deal with difficult situations, involving diagnosis and treatment by meeting them himself under direction, and continually adds to his store of experience. It is obvious that in one or two short years he cannot see all the kinds of medical conditions which he will meet during his coming years of practice. He sees many examples, and above all he acquires methods of approach and observation. He learns to work in cooperation with others and to take his place in the team. He learns to use his hands and his senses. His education has just begun, to continue all through his years of professional life.

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Such an opportunity is essential to his further development, whether he is planning to devote himself to medical research or to some form of medical practice.

The hospital that best fulfils its functions of caring for the sick and of educating its staff, nurses and the public offers to the interne the best opportunity for carrying out the purpose of an internship. In some hospitals, the organization of the staff and the relations of the several departments to one another are best suited to a rotational type of intern service; in other hospitals the organization calls for single services or combinations of services. The individual needs of hospitals as well as of students vary.

The purpose of a hospital internship is not to supply deficiencies of the medical curriculum nor to complete a medical education. It sometimes happens that those charged with the administration of the medical school are willing to comfort uneasy consciences with the thought that evident defects or lapses in this or that department of medicine will be remedied in the student's internship. Weak or inadequate instruction in practical obstetrics, for example, should be frankly charged against the medical curriculum rather than covered up in the hope that the student will secure a month or so of obstetrics in a rotational internship.

Nor is the function of an internship to make specialists. The essential foundation for a specialist is a wide general medical experience on which he may build his superstructure of special knowledge. It has been felt by some that the single medical or surgical service tends to direct young men toward early specialization. No doubt, if the internship itself were the deciding factor determining specialization, this tendency would probably be more evident in single than in rotational internships. A recent inquiry by Dr. Gatewood among more than 150 physicians who served nonrotational internships indicates that their choice of a special service was usually prompted by a desire to be associated with some physician, and that the nonrotational service itself was not a determining factor leading to specialization.

If the chief of a single service has high ideals for his specialty, he will outline a further long program for the aspirant which will insure a wide clinical experience. The fear that a year of internship in internal medicine or surgery may contribute to premature specialization seems unwarranted by facts. A much greater danger to both interns and patients is met in certain rotational hospitals whose internships are much sought after, because of the loose organization which allows interns to perform operations without necessary supervision.

The purpose of an internship is not primarily to afford opportunity for the formal investigation of a problem. Now and then the exceptional intern, usually more mature than the average, continues some inquiry already begun, or makes a creditable study of some clinical topic in which he becomes interested; but the duties of an intern in the study and care of his patients should have first claim on his time, and any additional available hours are usually best spent in needed outdoor recreation or in reading. The essentials of research concern the attitude of mind of the student, rather than the subject of the inquiry, and habits of thoroughness, of scientific curiosity and of careful observation may be acquired in the ward as well as in the laboratory. The atmosphere of research and of desire for knowledge and truth in the hospital will influence him daily in making and recording his observations, and may happily lead him to undertake further independent study during his later residence.

The purpose of an internship is not to make possible the operation of the hospital nor to assist the hospital in meeting the technical requirements of some standardizing agency, although the maintenance of satisfactory intern service by the hospital does aid it materially in attaining both these ends. The days when hospitals exploited their interns by exacting services which should be performed by orderlies are largely past, but there still remain in many of our better hospitals certain uncorrected errors, such as the overloading of interns with an enormous mass of routine laboratory examinations demanded by some medical services, or the assignment of one intern to so many surgical attending men that, by reason of the multitude of operations, he has insufficient time to study and examine his patients, or the appointment of two or three interns to care for hundreds of patients, thereby inculcating habits of superficial examination which too often grow uncorrected in the young physician as the years go on.

The intern is an important part of the great cooperative enterprise of the modern hospital. He will work faithfully and grow in professional stature, if he is not overloaded, and if he is early led to enter into that spirit of friendly cooperation between attending staff, nurses, administration and patients which characterizes the well ordered progressive hospital, a spirit that may be described as a hospital consciousness.

A number of questions arise in the selection and organization of hospitals in which the student is to carry out the purpose of the internship, among which are methods of supervision of this internship and the kind of internship that is likely to be most satisfactory. Some medical schools have undertaken to supervise one year of the internship by requiring a fifth or hospital year as a prerequisite to the medical degree, and delegating the supervision of this year to a group of faculty members usually called the fifth year committee. This arrangement assures that all students will take internships in hospitals complying with certain minimum standards, and thus protects some of the less critical students from errors in selection of their hospitals. Fifth year committees have incidentally been of great assistance to hospitals, in pointing out, and in helping them to remedy, their defects. The administration of a fifth hospital year is, however, only one of the ways in which the student may be launched on his career on leaving the medical school, and there are those who prefer to have the supervision of the medical school cease at the end of the four years of study.

There has been much discussion as to whether a rotational internship should be insisted on for all students, and some states have gone so far as to prescribe the character of the internship and the time to be devoted to medicine, surgery and obstetrics. It will probably be admitted by all that the organization and administration of a majority of hospitals in this country are best adapted to a rotational service, and that even in hospitals offering single longer services a combination of two services is frequently desirable for the intern. But the needs of students are not all the same, and to insist that the education of every student shall conform in all its details with one rigid standard tends to reduce the ideals of professional education to the dead level idea of the trade union. Standardization has done much for medical education and for hospitals, and makes possible large results with minimum effort; but quantity production never produced a new model.

The suitability of a hospital for the purpose of an internship depends on the ideals and character of its staff, on the ability and desire of its administration to provide the best care possible for the sick, and on the presence of a spirit of inquiry and progress, and not primarily on whether it has a rotational or a nonrotational system.

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IMMUNIZATION AGAINST DIPHTHERIA

WITH TOXIN DETOXIFIED WITH SODIUM RICINOLEATE

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AND
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The present paper is the outgrowth of work begun by one of us[1] in 1919 on the effect of the surface tension of the culture medium on bacterial growth. In a series of papers published since then it has been shown that bacteria may be divided into two main groups with respect to their behavior toward surface tension depressants: one group, which is represented by the colon-typhoid organisms, grow well in mediums of low surface tension, while the other group, represented by pneumococci, streptococci and the tubercle bacilli, are extremely sensitive to slight lowering of the surface tension of the medium. In fact, members of the latter group are rendered nonpathogenic by exposure for short periods of time to proper surface tension depressants, such as sodium ricinoleate.

In attempting to find the most suitable surface tension depressant for biologic work, it was found that sodium ricinoleate served this purpose better than anything else tried, since it could readily be purified from castor oil, is very soluble in water, is active in reducing the surface tension in the p_H ranges of culture mediums, and gives solutions of low viscosity. Other soaps, especially of the unsaturated fatty acid series, may also be used, but none measure up to the salt of ricinoleic acid. We have therefore used sodium ricinoleate in most of our experimental work.

Having found that many pathogenic bacteria, such as pneumococci and streptococci, were rendered noninfective by treatment with sodium ricinoleate, Larson and Nelson[2] studied its effect on bacterial toxins. They found that tetanic toxin and diphtheritic toxin were instantly detoxified in a solution of purified castor oil soap when mixed in the proper ratios.

Although the toxins are instantly detoxified when appropriately mixed with sodium ricinoleate, their antigenic properties remain unimpaired. This observation suggested the possibility of using this method to modify bacterial toxins for immunizing purposes. All known bacterial toxins are too toxic to be used in public health work without first being modified so as to be rendered nontoxic. The sodium ricinoleate method proved to be valuable since it promptly detoxifies the toxin without altering its antigenic properties. In studying the immunizing properties of toxins modified in this way, Larson, Nelson and Evans[3] found that guinea-pigs and rabbits could readily be immunized against both tetanic and diphtheritic toxins with such material. It was found, however, on further investigation, that botulinic toxin formed the exception to the rule, since its toxicity was not perceptibly modified by sodium ricinoleate.

It has long been known that botulinic toxin differs in one respect from diphtheritic and tetanic toxins, in that it is not "destroyed" in the digestive tract as are the latter two. The observation that animals otherwise sensitive to diphtheritic and tetanic toxins cannot be intoxicated when these toxins are introduced into the digestive tract may possibly be explained by the action of the bile. The bile soaps undoubtedly detoxify these toxins, while botulinic toxin is not so changed. This is in full agreement with clinical observation. Indeed, the alimentary canal constitutes a thirty-foot culture tube teeming with unnumbered varieties of bacteria, some of which are undoubtedly producing toxins constantly. Had nature failed to provide an effective detoxifying mechanism, the host would probably not survive. Further investigation may reveal that this is one of nature's mechanisms for facilitating the development of a "natural" immunity to many of the bacteria to which man and beast are daily exposed. Some such mechanism must be of vital importance to the new-born.

The question as to the nature of the reaction between the toxin and soap is an interesting one, but one which cannot definitely be answered until we know something of the chemistry of the respective toxins. This question has been attacked by Larson, Halvorson, Evans and Green,[4] who conclude that the reaction is an adsorption phenomenon. It is, we realize, impossible at present to draw a sharp line between chemical reactions and some of those reactions which physical chemists consider to be of a purely physical nature. In fact, there are today many able chemists who deny the existence of adsorption phenomena in the sense of a purely physical combination. Whatever the nature of the reaction may be, it has been found that soaps—chiefly of the unsaturated fatty acids—and preferably sodium ricinoleate, detoxify bacterial toxins, with the exception of botulinic toxin, and that such soap-toxin mixtures are antigenic.

Having found that experimental animals, as rabbits and guinea-pigs, may be immunized with such detoxified toxins, it was then tried on human subjects. A group of laboratory workers and volunteer medical students were first injected subcutaneously with varying amounts of sodium ricinoleate solutions to determine whether the soap caused any reaction. It was found that solutions of highly purified sodium ricinoleate caused no reaction other than a slight burning sensation at the point of injection, which lasted only a few seconds. Diphtheria toxin-soap mixtures were then injected into a group of laboratory workers who had been found to be Schick positive, each subject receiving 0.125 L + toxin in a 1 per cent soap solution in a total volume of 1 cc. The injections were followed by a mild local reaction, which followed the course of an ordinary positive Schick test. A preliminary report of this work has been made by Larson, Eder and Hancock.[5] In our later work we have used 2 per cent soap solutions, and made the injection intramuscularly, and have, in this way, eliminated the reactions. If immunization against diphtheria is ever to become universal, it is imperative that a technic be developed which will eliminate local and general reactions, that the toxin be neutralized with substances which are nonantigenic, since the naked toxin cannot be used, and that the number of injections be reduced—preferably to a single treatment—and, further, the time required for immunity to develop should preferably be shortened to the point at which active immunization may be used to suppress an existing epidemic. The desirability of eliminating the antitoxin from the immunizing material is apparent to all because of the danger of sensitization to horse serum. The anaphylactic reaction which may result from the use of antitoxin in a case which has been treated recently with toxin-antitoxin is to be avoided in cases which are already toxic as a result of an infection. Stewart[6] has recently emphasized this point. There has been a tendency on the part of some authors to minimize the danger of sensitization. We admit that the small amount of serum that is given with toxin-antitoxin is not likely to produce a severe anaphylactic reaction. However, it is sufficient to sensitize against the respective serums. It is this sensitization which is undesirable should it be necessary to give serum from the same species of animal to an individual who is already toxic from some infection. Recognizing this objection to the original toxin-antitoxin, efforts have been made recently to substitute antitoxin prepared from goats, since goats are not generally used in the preparation of commercial antitoxins. This is without doubt a step forward, but it will not entirely eliminate the danger of anaphylaxis, since it is now known that serums of different animals may contain common proteins. Friedberger and his pupils have proved this beyond any doubt.

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[1] Larson, W. P.; Hartzell, T. B., and Cantwell, W. E.: J. Infect. Dis. **25**: 41 (July) 1919.

[2] Larson and Nelson: Proc. Soc. Exper. Biol. & Med. **21**: 278, 1924.

[3] Larson and Nelson: Proc. Soc. Exper. Biol. & Med. **22**: 194-196, 1924.

[4] Larson, Halvorson, Evans and Green: Colloidal Symposium Monograph, Chemical Catalog Company, 1925.

[5] Larson, Eder and Hancock: Proc. Soc. Exper. Biol. & Med. **22**: 552-553, 1925.

Immunization with Soap Toxins in Diphtheria

Number of Cases Treated	Number of Cases Re-tested	Time of Retest, Weeks	Dose, L +	Number of Treatments	Number Negative	Per Cent Negative	Per Cent Soap	Volume, Cc.
576	54	8	0.125	1	36	66.6	1	1
	4	6	0.25	1	4	100	2	1
	23	12	0.125	2 (7 day interval)	11	47.8	1	1
	70	5	0.18	1	27	38.5	2	1
Total...	151	12			76	52		

The use of sodium ricinoleate as the detoxifying agent eliminates the danger of sensitization to foreign substances, since it is not antigenic. In this age of serums and vaccines, the importance of this point cannot be overemphasized. Until the time arrives when antitoxins can be purified to the point at which their use will not sensitize the patient to animal serums, their use should be reserved for emergencies.

Whatever the technic of antidiphtheritic vaccination may be, it is imperative that the injections cause little or no reaction. The sodium ricinoleate method of modifying the toxin is equal to antitoxin in this respect. Another most desirable improvement in the technic would be reducing the number of injections, preferably to one treatment. Since antidiphtheritic immunization is so slow in getting under way, it may not be possible to meet this condition in all cases, although, as may be seen from the accompanying table, it appears not to be an impossibility.

After having satisfied ourselves that diphtheritic toxin-soap was fully equal to, and in many respects superior to, toxin-antitoxin as an immunizing agent, we felt that we should thoroughly investigate the possibility of immunizing with one treatment and, further, to determine the optimal interval between treatments for the best results, should repeated injections seem necessary. We have therefore given but one injection in the group of cases we are reporting, in order to study the maximum effect resulting from such a treatment. The subjects were institutional patients, largely of school and preschool ages. Unfortunately for this type of work, the patients do not remain in the institution for more than a few weeks at a time, which makes observation and retesting difficult. This circumstance accounts for the fact that only about 25 per cent of the subjects treated have been retested.

The accompanying table shows that immunity developed in 38.5 per cent of our cases within five weeks following one injection. In fact, we have seen a Schick test turn from positive to negative in ten days. In another group of 54 cases, 66.6 per cent became negative to the skin test in eight weeks. This was undoubtedly a particularly favorable group, and apparently a higher average than can be maintained using the present technic, since only 52 per cent of a larger group of 151 cases gave a negative test after twelve weeks. However, the fact that a 1 per cent soap solution was used instead of a 2 per cent may be a factor. This percentage of negatives will undoubtedly rise very considerably during the next three months.

Repeating the number of injections does not seem to increase the number of negative skin tests within the first twelve week period. Out of a group of twenty-three subjects given two injections at an interval of seven days, only 47.8 per cent gave negative tests twelve weeks from the time they received the first treatment. Retests which are now under way indicate that the percentages of negative skin tests will be very much higher at the end of the six month period.

There will undoubtedly be a considerable number of cases which will not immunize from a single treatment. We are then confronted with the problem as to the optimal interval between treatments for best results. We have, largely by force of habit, fallen into the routine of repeating vaccine treatments about a week apart. Since diphtheritic immunization is slow in getting under way, it would seem more logical to give the second treatment—when necessary—after a longer interval. We plan to make a more complete report on this point, as well as on other unsettled phases of the problem, in a future article. It is realized that the number of cases in our series is small. However, we feel we have shown that the sodium ricinoleate method is practicable and safe. The soap-toxin mixtures are, we believe, superior antigenically to toxin-antitoxin, and are free from the shortcomings of the latter. On the basis of the results reported in this paper, and elsewhere, we do not hesitate to recommend the sodium ricinoleate method as safe and effective in immunizing against diphtheria.

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6. Stewart, C. A.: Anaphylactic Reactions Following Administration of Serums, J. A. M. A. **82**: 113 (Jan. 9) 1926.

Chickenpox First Described by Heberden in 1767.—In his essay on the death of Louis XV, published in 1774, he suggests that the king's first supposed attack of smallpox at the age of 14, thirty years before his death from this disease, was really "petite vérole volante, which is not smallpox properly so-called." It is noteworthy that varicella, which the term "petite vérole volante" signifies, was first clearly distinguished from smallpox in 1767 by Heberden in the medical transactions of the College of Physicians, which it is possible that Voltaire, owing to his interest in medical literature, may have read. Elsewhere (Précis du Siècle de Louis XV, Chap. XII) he says that the king's attack was of the putrid or malignant type, and that several of his officers contracted the disease from him and died.—Rolleston, J. D. *Proc. Roy. Soc. M.* **19**:84 (Feb.) 1926.

IMMUNIZATION AGAINST SCARLET FEVER

WITH TOXIN DETOXIFIED WITH SODIUM RICINOLEATE

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ST. PAUL

In the paper on immunization against diphtheria with toxin that has been detoxified with sodium ricinoleate,[1] a brief discussion of the action of soaps on bacterial toxins was given and references to previous publications were cited. We have therefore not deemed it necessary to repeat the discussion here.

In immunizing members of the human family against any bacterial toxin, it is necessary to have the immunizing material in a form that will give little or no reaction, as any immunizing method that is followed by a moderately severe reaction, either general or local, will not find favor with either the physician or the general public. In fact, when animal immunization against bacterial toxins was first begun, following the discovery of diphtheritic and tetanic toxins, it was found that the naked toxins were too toxic to be used in the preliminary injections. Efforts were therefore made to find some neutralizing agent that would lessen their toxicity without altogether destroying their antigenic properties. Roux and Yersin found iodine trichloride of value for this purpose. Later, antitoxin replaced the iodine salt.

In immunizing horses against bacterial toxins, in the preparation of antitoxin, it is customary to begin treatment either with a toxin-antitoxin mixture or by giving the animals an injection of antitoxin preparatory to injecting the toxin. This procedure is followed until the animals have acquired a "ground" immunity, after which they may be hyperimmunized by injecting the unmodified toxin.

Since it has not been found practical to begin animal immunization with the unmodified toxin, it would seem the more unpractical to attempt to immunize members of the human family with toxins that had not been modified so as to render them less toxic. We believe that the experiences of those who have used the naked scarlet fever toxin in graduated doses in attempts to immunize against scarlet fever support this view. General immunization against scarlet fever will probably never receive the enthusiastic support of either the physician or the general public until a method is found of modifying the toxin, so that little or no reaction will follow the treatment.

As was pointed out in the preceding paper, certain fundamental conditions must be met before any prophylactic treatment will come into general use. A method that requires numerous injections is too cumbersome to be practicable. The treatments must be brought down to a minimum, preferably one treatment; they should be followed by little or no reaction, and, to be ideal, the immunization period should be shortened to come within the incubation time of the infection, as in the case of rabies.

The ideal procedure should further enable us to suppress an existing epidemic. From the public health standpoint it is more important, in our opinion, to be able to suppress an epidemic than to give a permanent immunity, although the latter is most highly desirable.

In the work reported in this paper, we feel that we have met many of the conditions for an ideal method of immunization. By using toxin that has been detoxified with sodium ricinoleate, we have modified the toxin without altering its antigenic properties, so that a large dose of the toxin may be given without producing toxic effects. The detoxifying agent is not antigenic, and hence there is no danger of sensitizing the patient to foreign serums. By using a nonantigenic detoxifying agent, we are independent of time intervals, as well as the previous history of the patient, should reinjections seem desirable.

The so-called scarlet fever antitoxin will not serve as a detoxifying agent for purposes of immunization since the "neutral" mixture is not always stable. The "neutral" soap toxin mixtures, on the other hand, are stable, and, so far as can be determined, remain so indefinitely if properly prepared and stored.

Immunization with Soap Toxins in Scarlet Fever

Number of Cases Tested	Number of Cases Positive	Dose	Time of Retest, Days	Per Cent Negative	Time of Retest, Days	Per Cent Negative
1,542	536	.....	..	....	...	..
	18	1,000	5	48	180	70
	39	1,500	7	64.5		
	44	2,000	8	68.5		
	318	3,000	8	77.3		
	68		21	97		
	191		60	80.6		
	21	4 000	8	90		
	5	4,500	8	100		
	2	5,000	..	....		
	2	10,000	..	....		

The importance of using a detoxifying agent such as sodium ricinoleate, which reacts with all toxins, is apparent in view of the recent work of Park and Spiegel,[2] who have shown that scarlet fever toxin is not a distinct entity, as are diphtheritic and tetanic toxins, but that a given strain of the scarlet fever streptococcus may secrete four or more toxins which are unrelated antigenically. The sodium ricinoleate method enables us to detoxify all streptococcic toxins, irrespective of groups, to the point at which large immunizing doses may be given without causing objectionable local or general reactions.

Intramuscular injections of from 3,000 to 5,000 skin test doses are followed by little or no reaction. Children over 12 years of age and adults seem to be slightly more sensitive to the toxin than younger persons.

In our work we have prepared the toxin-soap so that the desired amount of toxin was contained in a volume of 1 cc.

The importance of mixing the toxin and the soap in proper ratios has been emphasized by Larson, Halvorson, Evans and Green.[3]

In the work here reported only Dick-positive cases have been treated. We have used 3,000 skin doses in most of our work, since this amount of toxin was found to give a high percentage of immunity, as determined by the skin test, in a relatively short period of time.

The accompanying table indicates that the acquisition of an immunity varies, within certain limits, directly with the size of the dose of toxin, although not all age groups respond to the toxin in the same degree.

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[1] Larson, W. P., and Eder, Howard: Immunization Against Diphtheria with Toxin Detoxified with Sodium Ricinoleate, THE JOURNAL, this issue, page 998.

[2] Park and Spiegel: J. Immunol. **10**: 829-833, 1925.

[3] Larson, Halvorson, Evans and Green: Colloidal Symposium Monograph, Chemical Catalog Company, 1925.

The larger amounts of toxin—from 3,000 to 4,000 skin test doses—give an apparent immunity in from 77.3 to 90 per cent of the cases within eight days following the treatment.

This suggests the possibility of using active immunization in fighting a threatening epidemic. In fact, we have successfully used this method to suppress several outbreaks of scarlet fever in institutions. A detailed report of this work will be published soon.

As regards the duration of the immunity, we have found that 70 per cent of those who gave a negative skin test within eight days following the small dosages were still negative at the end of six months. It is not improbable that repeated injections of increasing doses may be necessary for the establishment of a permanent immunity. It is not possible, however, to draw conclusions on this phase of the problem at the present time.

Our table shows that only 80.6 per cent of a group of 191 were negative sixty days after the treatment. The average age of this group was nearly 20 years. This probably accounts for the lower percentage of negative Dick tests.

The work of Park and Spiegel shows clearly that a person may be immune to a given toxin and still not immune to all scarlet fever toxins. Their observations emphasize the necessity of using a polyvalent antigen in the immunizing material in order to protect the patient against the widest possible variety of toxins.

On the basis of some work we have already done, we have come to the conclusion that the antigen should contain not only the scarlet fever toxin, but the streptococci as well, in order to develop an antibacterial as well as an antitoxic immunity. Such an immunity should provide a double security against scarlet fever. It is without doubt an antibacterial immunity that follows antityphoid vaccination.

SUMMARY

Sodium ricinoleate is an effective agent in detoxifying scarlet fever streptococcic toxins, and such soap toxin mixtures give a rapid immunity without causing objectionable reactions. The sodium ricinoleate method of detoxication makes it possible to give sufficient toxin in a single injection to cause positive skin tests to become negative within a few days. It opens the possibility of suppressing an epidemic of scarlet fever by active immunization, since 77.3 per cent of positive skin tests become negative in eight days, and 97 per cent become negative in three weeks.

Chinese Medical Sayings and Proverbs.—1. Do not take medicine compounded by a doctor who is not backed by the experience of three generations. 2. To become a good doctor requires breaking the arm three times. 3. However well up one is in Wang Su-ho, it is not so good as more clinical practice. (Practice makes perfect.) 4. To be a caligraphist, requires the wasting of paper; to be a doctor, requires the sacrificing of lives. 5. Wide reading increases knowledge of diseases; more clinics give experience in diagnosis; repeated tests make properties of drugs better known. 6. The skilful doctor knows what is wrong by listening alone, the middling doctor by observation, and the inferior doctor by feeling the pulse. 7. Curved wood is found in abundance at the skilful carpenter's shop; crowds of patients are seen at a good doctor's office. 8. Doctors cannot cure their own complaints.—*China M. J.* 39:1100 (Dec.) 1925.

A BENIGN AND CURABLE FORM OF HEMORRHAGIC NEPHRITIS *

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NEW YORK

Acute hemorrhagic nephritis, which commonly follows scarlet fever and other forms of acute streptococcus angina, is a disease of serious prognosis, for it not infrequently leaves behind it a more or less severely damaged kidney in which all the glomeruli present evidences of a diffuse injury. As a result, the acute nephritis may gradually progress to a chronic diffuse nephritis involving the glomeruli, the tubules and interstitial tissue.

In contradistinction to this well known type of acute hemorrhagic nephritis there occurs a benign form with which most clinicians are as yet unacquainted. Attention was first seriously called to its existence by the German clinicians Scheidemandel[1] and Volhard,[2] but in the English and American literature nothing more than extremely casual references have come to my notice.

I have had the fortunate opportunity of studying fourteen cases of this benign type during the last five years. Briefly summarized, the disease occurs most commonly in young adults and is characterized by a hematuria, usually macroscopic, which may be painless. Unlike the common form of the acute diffuse disease, there are usually no constitutional symptoms. Neither edema nor hypertension develops at any time during the course. The hematuria may be persistent or recurrent in the form of brief attacks. In most instances a definite focus of chronic infection can be discovered, usually in the tonsil. The elimination of such a focus, for example by tonsillectomy, frequently results in a temporary but pronounced increase in the hematuria, followed by gradual but complete disappearance of red blood cells from the urine.

Many of the cases are at first considered examples of hematuria due to surgical conditions in the genito-urinary tract. Some have undoubtedly masqueraded in the past under the general term "essential hematuria."

INCIDENCE

The youngest patient in my series was 15 years of age; the oldest, 42. Eight of the fourteen patients were young adults in the third decade of life. In fact, in my experience the disease was rather strikingly limited to young adults. There seems to be no predilection for either sex. Some of the cases were encountered in private practice, although the major experience has been obtained in the wards of the hospital.

COURSE OF THE DISEASE

There are two types of the disease which differ from each other both in their mode of onset and in their course.

Recurrent Type.—The hematuria in this type usually lasts only a few days. The intervals between attacks are variable, being weeks, months or years, and during this period the urine may be entirely normal or may at times show some red blood cells on microscopic examination. The acute angina which usually precedes the attack consists generally of a diffuse redness of the pharynx, the pillars of the fauces and perhaps the tonsils, although in some instances a true follicular tonsillitis has been observed. The discomfort caused by the sore throat is usually not very great. The hematuria follows the angina at a variable period of time, from one to eight days after its onset, most commonly, however, within one or two days after the appearance of the sore throat.

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* From the Department of Medicine, Mount Sinai Hospital

1. Scheidemandel: München. med. Wchnschr. 60: 1778, 1913.

Persistent Type.—This type of the disease is more insidious in onset, and often the hematuria is accidentally discovered by the patient who is otherwise entirely well. The macroscopic hematuria may vary in intensity from a slight reddish turbidity of the urine to a deep smoky appearance. In the more chronic cases it may persist for many months or until surgical intervention. The most striking characteristic is the complete absence of subjective symptoms in spite of the pronounced hematuria.

In this persistent type of the disease, the patients are seldom conscious of sore throat. The past history may reveal frequent attacks of pharyngitis or tonsillitis, but during the actual course of the hematuria most patients do not experience any throat discomfort. A few admit, on questioning, that they feel a slight throat irritation.

URINARY FINDINGS

Aside from the macroscopic hematuria, the urine otherwise presents few changes. The specific gravity is normal and the kidneys still possess a normal capacity to concentrate the urine during the night. Albumin is always present in variable amounts, from a faint trace to a cloud. The most conspicuous microscopic finding is the presence of innumerable red blood cells, but all kinds of casts may be found, both red cell casts and hyaline and granular casts. The casts are more or less obscured, however, by the presence of the enormous numbers of red blood cells. The total volume of urinary excretion remains unchanged.

PAIN AND OTHER SYMPTOMS

Although half the patients have had no pain or symptoms of vesical irritation, a few have occasionally complained of slightly increased frequency of urination. With the onset of the hematuria and at times during the course of the disease, the patients may experience a dull pain in one or both lumbar regions, which occasionally may radiate around the front of the abdomen and into the groin. This lumbar pain is seldom conspicuous and is usually brought to light only on questioning the patient.

Besides the hematuria and in some patients the slight lumbar pain, there are few conspicuous symptoms. As has been said, sore throat usually precedes the onset of the hematuria in the recurrent type of the disease, whereas in the more chronic persistent cases there may be little or no discomfort. Examination of the throat reveals in most instances chronically diseased tonsils, which may or may not be hypertrophied. On pressure, purulent material can usually be expressed from one or both tonsils. Occasionally the pus is thin and brownish, while at other times it is thick and creamy. In the present series a thin, brownish pus was more common.

The blood pressure always remains normal. Edema has never occurred in any of the patients. Chemical examination of the blood has regularly revealed only normal findings. Not even the slightest increase in the nitrogen constituents of the blood has ever been detected. None of the patients have shown an appreciable anemia. The phenolsulphonphthalein, the indigocarmine, the Mosenthal and other renal function tests have all been normal. In fact, except for the hematuria and albuminuria, a study of the renal function has never shown any deviation from the normal, even in the cases in which macroscopic hematuria persisted for many months.

ETIOLOGY

In the acute recurrent cases which have been preceded by a diffuse redness of pharnyx and tonsils, streptococci may regularly be found in smears and cultures from the throat, but no work has yet been done to ascertain definitely whether they have any causative relation to the condition. Nor have the organisms been studied serologically in order to ascertain whether they fall into a common group. It is therefore impossible as yet to say that they do not merely belong to the common flora of the mouth. In the persistent types of the disease, smears and cultures from the purulent material expressed from the tonsils either before or after tonsillectomy usually show the presence of an anhemolytic streptococcus.

In one of my patients the focus of infection was apparently in the antrum of Highmore. Evacuation of the pus which contained streptococci, and frequent washings until the infection had completely subsided, were followed by disappearance of the hematuria.

In one patient in whom no focus of infection was discoverable either in the tonsils or in the sinuses, a chronic pulmonary tuberculosis was present with cavitation in the right upper lobe. It is quite possible that in this instance a secondary infection of the tuberculous cavity was the source of the trouble. Volhard observed a similar case.

PATHOLOGY

In view of the fact that the disease is always benign, I have had no opportunity of studying the kidneys histologically. Volhard believes that the pathologic lesion is probably a focal disease of the kidneys. As he pictures it, occasional glomeruli are constantly being damaged either in whole or in part. Unlike the ordinary diffuse glomerulonephritis, the vast majority of glomeruli are still intact.

The lesion is probably not unlike the embolic glomerular lesions which were first described by Loehlein,[3] and which I studied rather extensively some years ago.[4] These embolic glomerular lesions are almost constantly to be found in the kidneys of patients dying of subacute bacterial endocarditis due to the anhemolytic streptococcus. I was able to show by bacterial stains that the damaged loops of the affected glomeruli often contain bacterial emboli.

However, the focal glomerular lesions of this benign hemorrhagic nephritis need not necessarily be the result of an embolic process. Some experimental studies on glomerulonephritis would seem to indicate that identical focal lesions affecting only parts of occasional glomeruli may also be produced by a purely toxic process.[5] I have also twice observed such focal glomerular lesions in the kidneys of patients in whom no endocarditis existed. Neither patient had been seen during life, so that it is impossible to state whether at any time they had presented the clinical picture of benign hemorrhagic nephritis.

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[3] Loehlein: Med. Klin. 6: 375, 1910.

[4] Baehr, George: J. Exper. Med. 15: 330, 1912.

[5] Baehr, George: Beitr. z. Path. Anat. u. z. allg. Path. (Ziegler's) 55, 1913.

DIFFERENTIAL DIAGNOSIS

Embolic Glomerular Lesions of Subacute Bacterial Endocarditis.—The focal embolic glomerular lesions of subacute bacterial endocarditis are accompanied by no clinical evidences of renal disturbance beyond hematuria and perhaps slight albuminuria. The hematuria is usually discovered only on microscopic examination. Macroscopic hematuria is rarely seen and is then more commonly the result of gross infarctions of kidney parenchyma by larger emboli thrown off from the vegetations. On the other hand, patients with a benign hemorrhagic nephritis generally present a gross macroscopic hematuria. They are otherwise well, presenting no evidences of cardiac disease.

Acute and Subacute Diffuse Glomerulonephritis.—The acute diffuse glomerulonephritis which follows scarlet fever and streptococcus angina (and which may also occur as a complication of subacute bacterial endocarditis due to the anhemolytic streptococcus [6]) presents a much more important problem in differential diagnosis.

The patient should be observed daily for puffiness of the eyelids, as the edema may be transient, occurring only for a few days. Similarly, the blood pressure should be taken every day, for in mild cases of acute diffuse glomerulonephritis an elevation in blood pressure may occur only on one or two days during the first week of the disease and may be entirely overlooked. Later, of course, if renal injury should lead to a chronic diffuse nephritis, hypertension will again be observed, but this may be months or years later. A chemical examination of the blood should be made when the patient is first seen. The fluid intake should be measured and compared with the total volume of the twenty-four hour urinary excretion. If a patient develops hematuria and also presents any evidences of edema, arterial hypertension, disturbances in renal function, or an increase in the nitrogenous constituents of the blood, the possibility of a benign focal hemorrhagic nephritis may be eliminated immediately from consideration. The patient is suffering from a diffuse vascular injury.

Scheidemandel[1] has also observed that the increase in hematuria which follows within twenty-four hours after tonsillectomy in so many of the cases of benign hemorrhagic nephritis constitutes a striking therapeutic criterion of differential diagnostic value. Curiously enough, such a phenomenon is rarely observed after tonsillectomy on patients suffering from diffuse glomerulonephritis.

Surgical Conditions.—The most important surgical conditions that may be associated with hematuria are renal or ureteral calculi, neoplasms of the kidney, papillomas of the kidney pelvis, ureter and bladder, and tuberculosis of the genito-urinary tract. Cases of benign hemorrhagic nephritis, in which the patient experiences some discomfort in the lumbar region, will always give rise to the suspicion that we are possibly dealing with a renal or ureteral calculus or some neoplastic disease of the kidney or ureter. In such instances, roentgen-ray examinations and cystoscopic studies made by a competent genito-urinary surgeon are needed before one can arrive at a differential diagnosis.

Eight of my cases have been studied by ureteral catheterization and renal function tests. The hematuria was found in all instances to be bilateral. In view of the focal character of the disease, with only occasional glomeruli involved, it is quite conceivable that the disease may at times be unilateral or that the hematuria and albuminuria may be more marked on one side than the other. Examples of unilateral nephritis have been described in medical literature, and they may possibly be examples of this disease, i. e., benign hemorrhagic nephritis, rather than the more common acute diffuse glomerulonephritis.

PROGNOSIS

The prognosis is excellent. Even patients in whom the hematuria has lasted continuously for many months have not shown the slightest evidences of a disturbance in renal function. Volhard is of the opinion that the condition, if unrecognized or allowed to continue indefinitely, may eventually lead to such extensive glomerular damage that disturbances of renal function will occur and the clinical picture of a chronic diffuse nephritis develop. I have as yet had no such experiences and cannot, therefore, confirm this important statement. It is quite likely that the patients who eventually develop evidences of renal insufficiency have primarily mild cases of the ordinary acute diffuse form of glomerulonephritis.

The following case history will exemplify this point and will also illustrate the characteristic course of the disease:

REPORT OF CASE

A woman, aged 22, who had always been in perfect health except for occasional attacks of tonsillitis in past years, discovered accidentally that the urine was bloody. On rare occasions there was a dull ache in one or both lumbar regions, but this was not very conspicuous. The hematuria persisted, and she consulted her physician, who came to the conclusion that she had a ureteral calculus. Blood pressure was normal, and there were no constitutional disturbances. Urinary frequency both day and night was not increased, and the volume of urine excreted did not differ from the normal. She then consulted a genito-urinary surgeon, who on several occasions performed a cystoscopy and catheterized the ureters. Even on cystoscopy and before the introduction of the ureteral catheters, it could be observed that a hemorrhagic urine was entering the bladder from both ureteral orifices. Catheterization of the ureters, a study of the urinary excretion from both kidneys, functional tests of the kidneys, roentgen-ray examinations and pyelograms failed to reveal a calculus or other surgical condition. The urine continued to contain macroscopic blood, a cloud of albumin and a few hyaline and granular casts, so that the physicians were forced to the conclusion that the patient was suffering from a hemorrhagic nephritis.

At this time she came under my observation, and all the studies previously made to exclude surgical disease of the kidneys and ureters were again made, with negative results. Frequent blood pressure observations over several months revealed only normal findings, the blood pressure never rising above 120 mm. of mercury. The patient was put to bed for a three week period, but without any material change in the intensity of the hematuria. There was often some slight daily variation, but macroscopic blood was constantly present in the urine.

Both tonsils were hypertrophied and conspicuously diseased. On pressure, considerable thin brownish pus could be expressed. After six months of dietetic and other therapy, the patient consented to the removal of her tonsils under local anesthesia. The tonsils were studied bacteriologically and pathologically. Cultures of an anhemolytic streptococcus were obtained. Microscopic sections revealed purulent accumula-

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6. Baehr, George; and Lande, Hermann: Glomerulonephritis as Complication of Subacute Streptococcus Endocarditis, J. A. M. A. **75**: 789 (Sept. 18) 1920.

tions within and about the crypts. Within thirty-six hours after the removal of the tonsils under local anesthesia, a very pronounced increase in the hematuria took place, the urine presenting a dark smoky appearance. This persisted for another twenty-four to thirty-six hours and then gradually subsided. Two and a half weeks after operation, macroscopic blood had disappeared from the urine, and three and a half weeks after the operation no more red blood cells could be found even on microscopic examination. A faint trace of albumin could occasionally be found in some examinations.

After the tonsillectomy, the patient asked advice concerning the advisability of marriage. On the basis of previous experience concerning the essential benignity of the pathologic process, it was thought safe to advise her that she was probably cured. Two years later she reported that she had become pregnant and asked advice as to the desirability of terminating the pregnancy. No red blood cells had reappeared in the urine in the interim, although at times a faint trace of albumin could be found. Phenolsulphonphthalein and other tests for urinary function again revealed that the kidneys were entirely normal. She was advised, therefore, to continue the pregnancy and she passed through the entire nine months without showing the slightest evidences of any renal disturbance.

COMMENT

In other words, the kidneys of this patient, in whom the disease had lasted continuously for six months, were put to a most severe functional test two years later and proved to be normal. It is evidently important to be able to differentiate this group of benign focal hemorrhagic nephritis from the larger and more malignant group of acute diffuse glomerular disease.

19 East Sixty-Fourth Street.

Clinical Notes, Suggestions, and New Instruments

SPORADIC TRICHINOSIS WITH EXTREME HYPOTENSION *

Garnett Cheney, M.D., San Francisco

Sixty-six years ago, Zenker was the first to correlate certain symptoms in man with *Trichina spiralis* infection, and since then many cases have been completely reported both in this country and in Europe. The case here described presents an interesting problem in diagnosis and certain features little recognized as yet in America.

Report of Case

A Filipino cook, aged 25, unmarried, was brought to the hospital complaining of general weakness. He had lived in San Francisco for the past five years and had been well except for influenza seven years previously. Six months before, he was in a hospital following an injury to his head, but he had made a good recovery. Two weeks before entry, he began to feel weak and his legs seemed heavy. His only other complaints were a sharp subxiphoid pain, and a diarrhea the day before admission. He was unable to associate any dietary indiscretions with his present illness.

He appeared poorly nourished, apathetic and ill. The eyes, ears, nose and throat were not unusual; the anterior cervical glands were palpable; there was stiffness of the neck with pain on flexion. The lungs and heart showed no abnormalities; the blood pressure was 82 systolic and 46 diastolic. The abdomen was held rigid and was generally tender to palpation. The muscles of the arms and legs were tender to pressure; extension of the right forearm was limited and painful. The knee jerks were absent, and a bilateral Kernig sign was present.

The temperature at entrance was 38 C. (100.4 F.), the pulse 100 and the respirations 28. The blood at entrance and the day following showed a hemoglobin of 72 per cent; 10,000 and 14,500 white blood corpuscles, with a slight increase of polymorphonuclear cells in the differential count, but no eosinophils. Urine, feces and sputum were not abnormal. The Widal test and the blood culture were negative; the spinal fluid taken on the second day was normal; its examination as described by Meyer[1] revealed no larvae of trichina. Repeated careful examinations of the blood also showed no larvae, but a piece of the left pectoral muscle removed on the third day was invaded by trichinae, none being encysted.

The temperature varied between 37 and 39 C. (98.6 to 104 F.), gradually falling to normal at the end of the second week; the pulse ranged around 100, and the respirations between 20 and 30. On the second day, the blood pressure fell to 44 systolic and 18 diastolic, checked by three observers with different sphygmomanometers. One cc. of epinephrine was given subcutaneously, and the blood pressure rose to 110 systolic and 48 diastolic, gradually falling to a constant level of 70 systolic and 42 diastolic after six hours. It gradually rose during the remainder of the four weeks stay in the hospital, reaching 102 systolic and 64 diastolic at discharge. The patient lay in bed with the legs drawn up and increasing flexion of the right arm at the elbow, until it could not be extended more than to a right angle. Similar flexion of the left arm developed, and both biceps muscles became tender, hard and lumpy. On the third day, there was a leukocyte count of 23,500 cells with a differential count of polymorphonuclears, 46 per cent; lymphocytes, 12 per cent; eosinophils, 41 per cent, and transitionals, 1 per cent. As no eosinophils had been present on the previous day with a total white blood corpuscle count of 14,500, these characteristic cells had appeared as a sudden shower. The white count fell to 7,900 before discharge with only 1 per cent of eosinophils; the hemoglobin was only 42 per cent. At the end of the first week, the patient looked bad and complained of generalized muscular pains; at this time, the electrocardiogram showed occasional extrasystoles. From then on, he improved except for a tender enlargement of the cervical, axillary, epitrochlear and inguinal glands noted at the end of the second week; the spleen was not felt. These glands were barely palpable at discharge. The bowels were regular and the urine output good throughout the illness. After the diagnosis had been established, the patient recalled having eaten some partially cooked pork one week before he was taken sick. Two friends said to have eaten of the same pork had had no symptoms and had normal blood counts.

At entrance, the commonly mistaken diagnosis of typhoid fever was made, and epidemic encephalitis was considered. The absence of eosinophils in the blood during the first two days was considered strong evidence against trichinae but has been noted before in severe infections.[2] The myositis was undoubtedly responsible for the stiff neck, the absent knee jerks,[3] and the positive Kernig sign, and caused the striking, characteristic stereotyped contractions of the arm muscles. The hypotension has recently been described by Gruber[4] and other German writers, but not generally noted in this country. The rise in blood pressure following the injection of epinephrine is a distinct contradiction to the reports of Maase and Zondek,[5] who found that it produced no rise in their cases. It is remarkable that the day the blood pressure was 44 systolic and 18 diastolic there were no other signs of circulatory failure and that the urine output was normal. The adenopathy is an unusual occurrence. No specific treatment was given, as the literature revealed none of proved value in the later stages.

Stanford Hospital.

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* From the Department of Medicine, Stanford University School of Medicine.

[1] Meyer, Jacob: Trichinosis, J. A. M. A. 70: 588 (March 2) 1918.

[2] Gould, E. R.: Am. Med., Sept. 26, 1903.

[3] Matthes, M.: Differential Diagnosis innerer Krankheiten, ed. 4, p. 113.

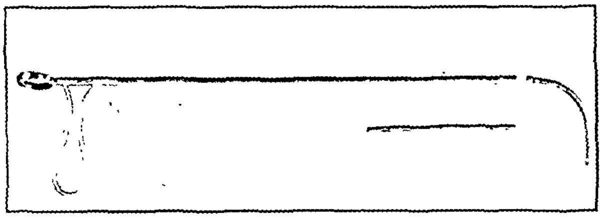
[4] Von Gruber, G. B.: Müchen. med. Wchnschr. 72: 1193 (July 17) 1925.

[5] Maase and Zondek, quoted by Matthes (footnote 3).

A NEW UTERINE SCREEN AND INTRODUCER FOR INSERTING RADON TUBES INTO THE UTERUS

FRANK EDWARD SIMPSON, M.D., AND ROY EMMERT FLESHER, M.D.,
CHICAGO

The screen consists of a hollow cylindric lead tube, which has a lumen just large enough to contain our radon (radium emanation) tubes. It can easily be bent to conform to the curve of the uterine canal, its flexibility being one of the important features. Screens may be made in various lengths and may contain from two to four or more radon tubes placed end to end. The screen containing two radon tubes is 5 cm. long, and each additional tube adds 1.75 cm. to its length. The wall thickness is 0.75 mm., the diameter of the lumen being 2.5 mm., and the outside diameter 4 mm. Each end of the screen is fitted with a nickel plated brass screw cap, which is provided with an eyelet through which a strong silk thread may be passed.



Screen and introducer.

The introducer is 30 cm. long and contains an obturator. One end of the obturator is divided into two jaws for the reception of the screen, the other end being provided with a ring. The screen may thus be clamped in the distal end of the introducer or released from it, by pulling or pushing on the proximal end of the obturator. The principle is the same as that used in the construction of the screen holders described by Simpson.[1]

ADVANTAGES

1. The screen can be bent to the required curve and introduced into the uterus, usually without bringing the cervix down.

2. The screen forms a radioactive rod of the desired length, so that the whole uterine canal may be effectively irradiated. From 500 to 1,000 or more millicuries may be used, the time of exposure being, approximately, from one to three hours, depending on the quantity of emanation.

3. In making intracervical applications in cancer of the cervix, dilation is seldom necessary. Trauma is thus minimized, and the danger of causing metastasis is probably greatly lessened. The same type of screen and introducer may be used in applying radium salts, but the increased bulk of a screen containing large quantities of radium salts would be a serious disadvantage. The lead screen, on account of its flexibility, has been found useful in treating other cavities. The screen can be straightened by being rolled between two smooth wooden blocks. After it has been bent and straightened a few times, it is liable to be inadvertently broken, but this danger may be obviated by frequently using a new screen.

59 East Madison Street.

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[1] Simpson, F. E.: Radium Therapy, St. Louis, C. V. Mosby Company, 1922.

Periarticular Fibrositis.—This is a special variety of a generalized fibrositis affecting the fibrous capsule of the joints. The characteristic lesion of fibrositis is the replacement of inflamed fibrous tissue by scar tissue, which is liable to contract. This contracture leads to thickenings which, if still the seat of inflammation, are tender and form nodules, and to shortening of the ligaments, which, if allowed to persist, pull on the ends of the opposing bones, resulting in deformities. In periarticular fibrositis there is no definite swelling of the joint, and the wasting of the surrounding muscles is that of disuse rather than of trophic disturbances. —Gordon, R. G.: *Brit. M. J.*, Jan. 9, 1926.

Special Articles

DIPHTHERIA MORTALITY IN LARGE CITIES OF THE UNITED STATES IN 1925

The first annual summary of diphtheria mortality in the cities of the United States with a population of more than 100,000 appeared in THE JOURNAL in 1924.[1] The third summary, for 1925, is presented here. Population estimates are the same as those in the article on typhoid.[2] The number of deaths from diphtheria used in calculating death rates has been sent us in each instance by the local health authorities, and we are under obligations for the generally prompt response to our request. The geographic divisions of the U. S. Census Bureau are used as in previous years.

As in former summaries, we have not attempted to adjust diphtheria rates on the basis of age, sex or racial distribution of the population, although these factors are well known to have great influence on the crude rate. Our reasons for this are given in the second summary.[3]

The New England cities (table 1) for the most part had very low diphtheria death rates in 1925 as compared with the 1920-1924 average. New Haven, for the second successive year, reports the remarkably low rate of 1.7 and again stands among the best on the Honor Roll. Lowell also shows marked improvement. Worcester, which seems to have had something of a diphtheria epidemic in 1924, again brings up at the foot of the New England cities, although with a materially lowered rate (14.6: 23.0). Boston starts the new quinquennium with the lowest diphtheria rate in its history (12.7), a substantial reduction from its five-year average (20.2). Hartford, which for 1890-1894 lost annually 121 lives per hundred thousand from diphtheria, in 1925 did not lose four.

TABLE 1.—*Death Rates of Cities in New England States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
New Haven.......	1.7	7.1	14.2	14.9	22.7	15.6	54.8	74.5
Lowell............	3.6	16.7	23.5	20.6	31.0	59.3	44.3	36.4
Hartford.........	3.7	11.9	13.8	25.3	28.1	38.8	47.8	120.9
Springfield........	4.2	15.4	24.9	19.1	31.3	29.6	51.3	68.2
Cambridge.......	5.8	8.9	12.9	23.8	25.3	46.7	71.9	58.0
New Bedford.....	7.5	16.5	17.0	20.9	22.6	25.1	63.6	29.0
Providence.......	7.5	15.8	29.3	26.8	30.7	41.2	53.5	55.3
Lynn.............	8.7	17.0	17.8	17.2	21.7	28.0	44.0	49.4
Fall River........	11.6	25.5	23.6	24.0	34.4	50.1	43.8	46.9
Boston...........	12.7	20.2	26.3	20.0	26.2	53.7	83.9	112.2
Bridgeport.......	13.9*	19.6	23.4	23.3	26.8	24.2	63.9	79.3
Worcester........	14.6	15.5	14.1	21.3	32.2	16.5	50.3	47.8

* Rate calculated on figures for population in 1922.

The cities in the Middle Atlantic states (table 2) likewise make an admirable showing, all but two having a diphtheria rate in 1925 below the 1920-1924 average. New York again reaches a low mark, a splendid tribute to the indefatigable efforts of the health department of that city. It is a piece of good luck for Camden, which brings up the tail of the column in typhoid this year, that it should be saved from the same ignominy in diphtheria by the maiden effort of Utica. In three other Middle Atlantic cities—Syracuse, Paterson and Buffalo—the 1925 rate shows a truly amazing decrease in comparison with the 1920-1924 average.

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[1] Diphtheria Mortality in the Large Cities of the United States, J. A. M. A. 83: 918 (Sept. 20) 1924.

[2] Typhoid in the Large Cities of the United States in 1925, J. A. M. A. 86: 948 (March 27) 1926.

[3] Diphtheria Mortality in the Large Cities of the United States in 1924, J. A. M. A. 84: 1269 (April 25) 1925.

Table 2.—*Death Rates of Cities in Middle Atlantic States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Syracuse	2.7	22.9	12.9	16.6	17.4	17.7	31.1	55.4
Paterson	4.9	18.5	13.5	16.1	25.5	52.9	111.8	145.4
Buffalo	5.8	24.0	27.3	22.0	18.4	24.8	53.3	60.9
Trenton	6.1	7.3	8.8	12.3	15.8	23.6	92.7*	89.7*
Albany	7.6	12.8	10.4	20.0	31.6	26.9	....	....
Pittsburgh	9.2	20.1	22.3	29.3	20.4	36.9	32.9	86.4
Newark	9.3	9.7	14.6	23.3	30.1	46.7	79.1	92.2*
Yonkers	9.7	17.0	17.7	25.3	....	....	....	....
New York	10.8†	14.0	21.8	28.0	40.0	58.0	85.8	134.4
Reading	11.5	21.1	16.9	35.7	29.2	70.1	72.0	94.1
Scranton	13.4	12.3	22.1	23.4	....	....	77.8*	48.6*
Jersey City	13.6	18.4	21.0	23.2	32.6	57.9	85.4	108.6
Philadelphia	15.9	16.7	22.7	24.6	34.1	50.0	100.6	119.4
Rochester	16.4	16.9	12.7	22.1	32.4	32.3	45.9	96.6
Camden	21.0	20.3	23.2	28.8	48.9	52.6	100.3*	194.0*
Utica	22.6	....	....	....	....	....	....	....

* Diphtheria deaths from Chapin's Municipal Sanitation

† Rate calculated on figures for population in 1924, with same annual increment added as in 1922-1923, 1923-1924.

Table 3.—*Death Rates of Cities in South Atlantic States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Norfolk	1.0*	4.3	4.1	6.7	....	....	....	....
Atlanta	4.4†	13.3	10.1	12.5	14.2	11.1	10.5	8.8
Baltimore	6.0	11.4	13.5	14.2	16.1	33.0	68.1	70.0
Washington	7.4	10.5	11.9	6.9	11.2	23.5	50.9	77.9
Richmond	16.1	9.8#	5.8	7.0	9.8	24.4	17.6	59.7
Wilmington	20.2	11.6	15.2	18.0	27.8	50.9	84.9	83.8

* Rate calculated on figures for population in 1924, with same annual increment added as in 1922-1923, 1923-1924.

† Rate calculated on figures for population furnished by the department of health

# The rate for Richmond was erroneously given as 2.2 in the diphtheria survey for 1924; the correct figure of 12.0 is used here.

The South Atlantic cities (table 3) had a somewhat checkered year, Richmond and Washington apparently suffering in 1925 from diphtheria more seriously than for some years, while the other four cities show a notable reduction.

Table 4.—*Death Rates of Cities in East North Central States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Akron	2.4#	10.4	18.9	27.8	....	....	....	....
Dayton	2.9	9.4	9.3	22.1	....	....	38.0*	116.0*
Columbus	3.2	8.5	7.6	12.1	10.5	11.6	....	....
Cincinnati	3.4	10.6	13.2	13.9	17.0	17.3	37.3	103.7
Flint	3.8	....	....	....	....	....	....	....
Grand Rapids	4.5	19.6	13.5	20.0	26.6	17.2	32.4	99.2
Youngstown	5.0	18.5	11.9	40.5	33.5	28.0	17.6	....
Canton	5.6	....	....	....	....	....	....	....
Indianapolis	6.7	11.7	21.4	13.5	13.3	15.9	36.4*	97.3*†
Chicago	8.0	17.5	31.2	37.9	27.0	33.9	69.7	117.3
Toledo	9.0	22.4	14.1	25.4	20.4	56.8	34.6	89.3
Detroit	9.5	24.3	32.2	33.3	22.6	38.5	62.9	132.9
Milwaukee	11.6	11.4	19.8	27.8	26.4	22.7	51.7	116.2
Cleveland	14.7	14.7	20.0	24.6	20.8	42.6	45.3	95.7

* Diphtheria deaths from Chapin's Municipal Sanitation.

† Data for 1891-1894

# Rate calculated on figures for population in 1924.

In the East North Central states (table 4) only two cities have rates greater than 10, and only one (Milwaukee) shows an increase—and that very slight—over the preceding five-year average. Several cities which, like Toledo and Detroit, have maintained relatively high diphtheria rates for two decades, achieved very low rates in 1925. Chicago had a rate of only 8.0, the lowest reported for any city with more than 1,000,000 population.

Table 5.—*Death Rates of Cities in East South Central States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Memphis	2.9	9.5	11.2	11.9	13.4	6.9	10.0	28.5
Louisville	5.0	10.4	9.5	9.0	....	....	39.0*	49.6*†
Birmingham	5.8	5.3	7.2	8.3	....	....	....	....
Nashville	6.6	8.0	8.9	7.3	10.3	13.9	30.1	28.4

* Diphtheria deaths from Chapin's Municipal Sanitation.

† Data for 1891-1894.

The four cities in the East South Central states (table 5) all had a lower rate for 1925 than for 1920-1924, the improvement in Louisville being especially marked.

Table 6.—*Death Rates of Cities in West North Central States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Duluth	0.0	....	....	....	....	....	....	....
Kansas City, Kan.	4.3	9.8	23.1	12.4*	....	....	....	....
Kansas City, Mo.	7.3	14.4	22.8	15.7*	....	....	....	....
St Louis	11.2	16.1	21.4	23.7	19.4	43.3	62.9	67.7
Des Moines	11.4†	15.1	16.6	15.1	....	....	....	....
Omaha	11.8	22.9	35.8	15.8	24.5	20.5	28.2	82.9
St Paul	13.4	17.5	20.7	31.4	31.1	27.9	43.3	75.4
Minneapolis	25.0	13.4	19.9	28.3	24.4	44.6	34.0	55.0

* Data for 1912-1914

† Rate calculated on figures for population in 1924, with same annual increment added as in 1922-1923, 1923-1924.

The West North Central cities (table 6) with one exception showed material reduction in diphtheria mortality in 1925. Minneapolis evidently experienced a rather sharp epidemic which not only gave it the highest rate of any city for 1925 but the highest reported for the two years 1924-1925. The adjoining city of St. Paul had a 1925 rate only about half as great. Duluth, reporting for the first time, is apparently the first city of this size to pass a twelve-month period without a single diphtheria death.

Table 7.—*Death Rates of Cities in West South Central States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Dallas	3.6	8.3	7.4	6.9	8.1	16.9	16.0	21.8
San Antonio	4.5	7.7	8.7	6.7	7.6	17.1	20.6	4.4
Fort Worth	5.8	1.8	....	....	....	....	....	....
New Orleans	6.8	6.5	11.6	19.6	10.2	11.5	17.1	51.3
El Paso	8.6	20.0	17.6	29.2	....	....	....	....
Houston	10.4	6.4	6.1	7.8	10.5	....	....	....
Tulsa	17.7	....	....	....	....	....	....	....

The cities in the West South Central states (table 7), where diphtheria mortality has apparently never been so severe as farther north, continue for the most part to have low rates. The newcomer in this group, Tulsa, however, qualifies among the ten worst in the country. Dallas, San Antonio and El Paso record much lower rates in 1925 than in 1920-1924, but Fort Worth, New Orleans and Houston show an increase.

The cities in the Mountain and Pacific states (table 8) show much greater divergence than last year: Portland, Salt Lake City, Spokane and Tacoma have higher rates, but Seattle, Oakland, San Francisco and Los Angeles have much lower. The fluctuations in this group of cities illustrate the need of caution in drawing comparisons for a limited period. All but one of the cities in this group had considerably higher diphtheria mortality in 1920-1924 than in 1915-1919, and all but two higher than in 1910-1914.

TABLE 8.—*Death Rates of Cities in Mountain and Pacific States from Diphtheria (Including Croup) per Hundred Thousand of Population*

	1925	1920-1924	1915-1919	1910-1914	1905-1909	1900-1904	1895-1899	1890-1894
Seattle	2.5*	6.6	5.5	5.2	12.5	31.8†	27.2#	...
Oakland	5.1	18.8	8.1	10.3	16.1	29.1	...	.
Los Angeles	6.2§	14.4	7.1	7.5	15.3	25.4	35.8	46.0
San Diego	6.6	.	.	...	.	.	..	
San Francisco	6.6	23.0	17.0	9.2	15.3‡	35.3‡	27.9#	82.8#
Portland	13.5¶	11.3	6.0	12.3	12.2	20.2	..	
Salt Lake City	13.7	12.5	14.5	15.1	34.2	46.0	14.8	56.7**
Spokane	14.7	11.3	4.2	7.6	25.8		59.5#	18.1**
Denver	15.7	23.2	6.7	10.2	20.8	29.6	27.3	130.2
Tacoma	18.2	12.4	7.7††	..	....	....	...	...

* Rate calculated on figures for population in 1924, with same annual increment added as in 1922-1923, 1923-1924

† Data for 1901-1904

# Diphtheria deaths from Chapin's Municipal Sanitation

§ Rate calculated on figures for population furnished by the department of health

‡ Data from Crum's paper in the American Journal of Public Health (7: 445 [May] 1917)

¶ Data for Dec. 1, 1924, to Nov. 30, 1925

** Data for 1892-1894

†† Data for 1916-1919.

TABLE 9.—*Ten Cities with Highest Diphtheria Death Rates for 1925*

Minneapolis	25.0	Tulsa	17.7
Utica	22.6	Rochester	16.4
Camden	21.0	Richmond	16.1
Wilmington	20.2	Philadelphia	15.9
Tacoma	18.2	Denver	15.7

TABLE 10.—*Ten Cities with Lowest Diphtheria Death Rates for 1925*

Duluth	0.0	Syracuse	2.7
Norfolk	1.0	Dayton	2.9
New Haven	1.7	Memphis	2.9
Akron	2.4	Columbus	3.2
Seattle	2.5	Cincinnati	3.4

TABLE 11.—*Cities Showing a Continuous Decline in Diphtheria Death Rates by Five-Year Periods from 1890 to 1924*

Baltimore
Camden
Cincinnati
Hartford
Jersey City
Newark
New York
Philadelphia

TABLE 12.—*Number of Cities with Various Diphtheria Death Rates*

	40 and Over	20 and Over	10 and Over	Under 10
1890-1894	50	50	52	2
1895-1899	33	49	56	0
1900-1904	18	43	55	1
1905-1909	2	36	55	3
1910-1914	1	34	53	13
1915-1919	0	22	52	18
1920-1924	0	13	52	18
1925	0	4	28	49

It is evident from a comparison of the summaries that annual variations in diphtheria mortality are quite great. Of the ten cities with the highest rate in 1924 (table 9), only three—Denver, Camden and Minneapolis—appear in the similar list for 1925, and only four of the ten lowest cities appear on the "lowest" list for both years (table 10).

TABLE 13.—*Total Average Diphtheria Death Rate, 1923-1925*

	Total Population (70 Cities)* Estimated by the U. S. Census Bureau Methods	Diphtheria Deaths	Diphtheria Death Rate per 100,000
1923	29,243,128	3,838	13.12
1924	29,810,993	3,285	11.05
1925	31,049,595	3,024	9.74

* Seven cities are omitted from this summary because data for the full period are not available

Tables 12 and 13 show impressively the waning of diphtheria as a cause of death. In 1925 for the first time there were more cities with rates under 10 than with rates over 10.

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

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(*Continued from page 951*)

PILLS

Though the word pill is derived from *pila,* a ball, it seems best to define the word, for the purposes of practical therapeutics, as rather slowly disintegrating medicinal masses of a size and shape convenient for swallowing. They should not weigh more than 0.5 Gm., or less than 0.05 Gm. If the pill is of a larger size it is called a bolus, the use of which is at present almost entirely restricted to veterinary practice, many people almost think it an insult to have a very large pill prescribed for them. Very small pills weighing less than 0.05 and more than 0.02 Gm. are called "granules." If the weight is below 0.02 Gm., they are usually designated as "parvules." While, as a general proposition, as small a pill as possible should be prescribed, it is rarely necessary to descend to the size of granules or parvules, excepting when the attempt is made to have a child swallow a pill.

The object of giving substances in pill form is to get a definite dose in compact and almost tasteless form, and to delay somewhat the rapidity with which it develops its action. They were the most popular solid dosage form before the days of the capsule. Their main characteristic from the present day standpoint is slowness of solution and hence delay in action, so that substances which are intended to act at once should never be prescribed in pill form. On the other hand, pills are especially valuable when action on the intestine is desired or slower absorption and, therefore, gentler and more prolonged action is aimed at. Sometimes pills fail to act on account of insolubility; and it has happened occasionally that pills were found in the stools practically unchanged. This is especially liable to occur in the case of very old pills, or of compressed pills, containing much insoluble material. Pills, like capsules, must not, of course, be prescribed for little children, as it is impossible to get them to swallow these. Indeed, there are some adults who believe they cannot swallow pills. For this reason it is generally best, before prescribing pills or capsules, to ask the patient whether he can swallow them. If he thinks he cannot, it may still be policy to prescribe an encapsulated powder; to teach the patient how to swallow pills, and to advise him, if he fails, to open the capsule and take the powder.

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* This is the fourteenth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

Official Pills.—A number of pills are official. The average dose of these is one or two pills excepting in the case of pills of phosphorus, the average dose of which is only one pill.

It will be noted that the majority of the official pills are cathartic. By reason of their slow disintegration and tastelessness, pills are an ideal method of administration for action on the bowel. In the choice among these cathartic pills, those of aloe, it seems, deserve first place. The "A. S. and B. pills" have only their small size especially to recommend them. The addition of strychnine and atropine is of no advantage because these agents are rapidly eliminated, while aloe is slow in action; hence, by the time the aloe acts, the others have long since left the system. The combination of aloe and podophyllum in "Janeway's pills" is probably rational by combining the effect of podophyllum on the small intestine with the effect of aloe on the large intestine. When the most powerful cathartic pill is required, the vegetable cathartic pill should be preferred to the compound pills of mild mercurous chloride (formerly compound cathartic pills), unless the action of calomel is especially desired. By changing the name of the compound cathartic pills, the Revision Committee of the Pharmacopeia has probably struck a blow against the popularity of this pill, but at the same time rendered humanity a service by protecting it against the danger of mercurialism from abuse of these pills due to ignorance of their composition.

Composition of Pills

	Composition, Each Pill	Gm.
Pills of aloe	Aloe	0.13
	Soap	0.13
Pills of asafetida	Asafetida	0.20
	Soap	0.06
Pills of ferrous carbonate (Blaud's pills),	Ferrous carbonate	0.06
Compound pills of mild mercurous chloride, formerly known as "compound cathartic pills,"	Compound extract of colocynth	0.08
	Mild mercurous chloride	0.06
	Resin of jalap	0.02
	Gamboge	0.015
Pills of phosphorus	Phosphorus	0.0006
National Formulary cathartic pills in increasing order of potency:		
Pills of aloin, strychnine and belladonna (A. S. and B. pills),	Aloin	0.013
	Strychnine	0.0005
	Extract of belladonna	0.008
Compound pills of aloe and podophyllum (Janeway's pills)	Aloe	0.065
	Resin of podophyllum	0.032
	Extract of belladonna	0.016
	Extract of nux vomica	0.016
Vegetable cathartic pills	Compound extract of colocynth	0.060
	Extract of hyoscyamus	0.030
	Resin of jalap	0.020
	Extract of leptandra	0.015
	Resin of podophyllum	0.015
	Oil of peppermint	0.008

The Pharmacopeia also recognizes the following two pill masses, from which pills of any desired size may be ordered. The usual dose of these masses is 0.25 Gm. Mass of ferrous carbonate (Vallet's mass), containing 35 per cent of ferrous carbonate; mass of mercury (blue mass), containing 33 per cent of mercury.

Extemporaneous Pills.—Any one of the official pills may be prescribed by merely writing the official name and stating the number of pills the pharmacist is to dispense. Pills made from official masses are prescribed by specifying the name of the mass and the total quantity, to be divided into the desired number of pills. The quantity required is obtained by multiplying the dose wanted with the total number of pills. If it is desired to prescribe a pill combination that is not found in the Pharmacopeia, it will be necessary, of course, to name each ingredient and its quantity. Such a combination is known as "extemporaneous" in contradistinction to the official pills or masses (the word extemporaneous being derived from the Latin *ex tempore,* literally, "out of time," meaning proceeding from the impulse of the moment. This word is applied not only to pills but also to all other formulas written by the physician to meet the peculiar requirements of an individual patient at the time of writing).

The need for the extemporaneous prescribing of pills might be illustrated by a brief study of so-called tonic pills, generally composed of combinations of iron, quinine, strychnine and arsenic. The elixir of iron, quinine and strychnine probably owes its popularity to its pretty greenish color and the fact that physicians generally do not taste their own medicine. The excuse that this bitter dose is given for its appetizing action cannot be advanced, because it is generally given after meals; and bitters, to be appetizing, must be given before meals. Likewise, required speed of action, secured by administration in liquid dosage form, cannot be cited in extenuation, for prolonged and continuous action rather than intense and sudden effect is aimed at. Then, why inflict such nasty, bitter stuff on a patient when we have in pill administration a method of sparing the palate and securing the same result? These pills should be prescribed extemporaneously because not every patient who feels "run down" needs iron.

If we desire, therefore, to employ iron as a tonic for a patient showing secondary anemia, we have in reduced iron, in 0.05 Gm. doses, iron pure and concentrated. Strychnine should be used sparingly or not at all when there is greatly exaggerated reflex excitability. When it is prescribed, strychnine nitrate should be preferred to strychnine sulphate, because the former is stable in the air, while the latter is not; and its average dose of 0.002 Gm., rather than a probably ineffectual dose of a half or a fourth of that amount, should be employed. It is a fact, observed clinically, that suitable patients while using such "tonics," appropriately compounded, often eat better, feel better, and gain weight. Their action probably depends on the stimulation of gastro-enteric function by the arsenic (trioxide dose, 0.002 Gm.), of neuromuscular action by the strychnine—acting directly as well as possibly indirectly by its increasing the secretion of epinephrine—and maybe on some subtle influence on metabolism exerted by the arsenic and the quinine. The latter may well be prescribed in larger dose than is ordinarily employed (0.12 Gm. or more, instead of 0.06 Gm.) if the patient's pulse is rapid and he suffers from palpitation, so as to secure the heart sedative effect of the quinine. Here, again, prescribing in each unit half the dose aimed at is good practice, thus providing against possible idiosyncrasy, and giving the direction that, if no effect is noted within three days, to double the dose. Individualization is here, as elsewhere, the price of efficient medication; and correct technic decides whether the patient will give a slowly acting medicine a chance by taking it faithfully or have a partially used bottle standing about in the house as a reproach to its prescriber.

(To be continued)

HOSPITAL SERVICE IN THE UNITED STATES

FIFTH PRESENTATION OF HOSPITAL DATA BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

The figures and data presented in this issue of THE JOURNAL will be best understood as belonging in three groups: (*a*) a complete census of all the hospital facilities of the United States, however owned and controlled, and for whatever type of patient; (*b*) a special study and a list of those hospitals that are intended for the accommodation of people in the communities in which they are located and as a matter of convenience designated as hospitals for community use, and (*c*) hospitals approved for the training of interns and those approved for residencies in specialties.

TABLE 1—*Total Hospitals—Giving Number, Capacity and Average Number of Patients*

State	Population, 1925	General			Nervous and Mental			Tuberculosis			All Other Hospitals			Totals			Total Cap. Including	
		Hospitals	Beds	Av Beds in Use	Hospitals	Beds	Av Beds in Use	Hospitals	Beds	Av Beds in Use	Hospitals	Beds	Av Beds in Use	Hospitals	Beds	Av Beds in Use	Bassinets	Bassinets
Alabama	2,467,190	72	3 238	1,743	3	3,223	3,126	4	258	142	22	1,884	1,120	101	8,603	6,131	338	8 941
Arizona	407,702	21	846	484	2	692	681	20	580	318	40	2 302	1,439	83	4,420	2,952	103	4 523
Arkansas	1,852,905	53	2,567	1,425	3	2,512	2,478	1	310	298	13	1,504	851	70	6 893	5,052	97	6 990
California	4,021,320	281	18,147	12,529	32	15,398	14,407	39	2 871	2,219	138	10 912	6,243	490	47,328	35,398	2,174	49,502
Colorado	1,019,286	66	3,465	2,152	10	2,630	2,333	20	1,745	1,475	28	3,321	2 105	124	11,161	8,065	322	11,483
Connecticut	1,531,255	43	5,079	3,376	16	6,547	6,143	8	1,028	919	21	1,202	835	88	13,856	11,303	746	14,602
Delaware	234,720	8	526	264	2	750	626	2	80	62	3	65	28	15	1,421	980	77	1,498
Dist Columbia	497 906	16	2,265	1,502	2	4,441	4,317	1	180	126	21	2,976	2,176	40	9,862	8,121	307	10,169
Florida	1,263 549	55	2,518	1,406	4	2 326	2,087	1	24	22	10	907	364	70	5,775	3,879	286	6,061
Georgia	3,058 260	68	3,856	2,183	5	4,810	4,729	2	272	254	24	1,928	1,107	99	10,866	6,273	330	11,196
Idaho	492,071	38	1,188	600	4	974	900	..			12	534	325	54	2,696	1 825	177	2 873
Illinois	6 964 950	236	21,456	14,468	30	24,366	22,512	21	2 631	2 316	93	6,507	4 321	380	54,960	43,647	2,824	57,784
Indiana	3 060,416	103	6,683	3,904	15	8 546	8 235	7	873	743	42	2,011	1,165	167	18,113	14,047	800	18,913
Iowa	2,505 569	140	6,911	4,209	15	8,268	7,770	6	615	453	36	1,527	934	197	17,321	13 366	846	18,167
Kansas	1,812 986	112	4,245	2,304	11	4,622	4,273	3	178	156	21	1,327	785	147	10,372	7 517	459	10,831
Kentucky	2,488 423	74	3,777	2,105	11	5,773	5,762	4	386	307	23	1,706	1,089	117	11,642	9,063	300	11 942
Louisiana	1,879 024	38	3,954	2,661	5	4,199	3 614	3	146	90	21	2,419	1,572	67	10,718	7,937	177	10,895
Maine	782,541	42	1,882	1,141	7	2,779	2,594	5	406	390	16	603	312	70	5,730	4,437	302	6,032
Maryland	1,537 085	36	4,214	3,101	17	5,281	4,862	10	2 055	1,378	30	1,662	966	93	13,212	10 307	461	13 673
Massachusetts	4,154,746	154	14,878	11,179	36	21,494	20,671	27	3,181	2,546	88	5 749	3,804	305	45,302	38,200	2,240	47,542
Michigan	4,154,625	143	10,354	7,225	16	13,266	12 543	17	1,800	1,416	52	2 719	1,705	228	28,139	22,889	1,338	29,477
Minnesota	2,563,550	145	8,910	6,720	13	7,795	7,188	19	1,926	1,524	55	3,050	1,976	232	21,681	16,408	1,023	22,704
Mississippi	1,790,618	52	2,239	1,220	3	2,884	2,774	2	524	335	9	736	568	66	6,383	4,897	162	6,545
Missouri	3,466,781	98	9,095	6,550	21	9,470	8 805	7	1,255	1,048	54	3,696	2,149	180	23,516	18,552	691	24,207
Montana	646,806	51	2,145	1,128	1	1,500	1,372	1	150	140	17	735	463	70	4,530	3,103	316	4,846
Nebraska	1,335,371	93	4,013	2,323	5	4,225	4 038	1	140	100	23	887	536	122	9,265	6,997	512	9,777
Nevada	77,407	14	407	194	1	300	222	.			10	206	112	25	913	528	42	955
New Hampshire	450,171	34	1,484	940	3	1,935	1,880	2	205	160	12	405	172	51	4,029	3,152	275	4,304
New Jersey	3,506,428	84	8,960	5,921	24	10,870	9,819	15	1,975	1,615	57	3,142	1,837	180	24,947	19,192	1,176	26,123
New Mexico	379,074	21	722	321	1	492	457	7	439	319	24	1,504	941	53	3 157	2,038	63	3,220
New York	11,162,151	294	36,546	26,313	60	52,355	50,486	65	8 139	6,690	211	18,088	11,930	630	115,128	95,419	4,964	120 092
North Carolina	2,759 014	88	4,113	2,348	11	4,761	3 954	25	1,145	886	29	1,978	1,287	153	11,907	8,475	411	12 408
North Dakota	686,424	36	1,574	1,058	2	1,420	1,309	1	110	90	13	310	112	52	3,414	2,569	191	3 605
Ohio	6,321,539	170	15,740	11,103	31	18 325	17,603	13	1,705	1,389	82	4,974	3,613	306	40,744	33,708	1,693	42,437
Oklahoma	2,238,536	81	2,997	1,541	6	3,915	3,773	5	380	287	21	1,050	696	113	8,342	6,297	209	8 551
Oregon	846 061	57	2,839	1,897	7	3,962	3,648	2	266	243	23	677	400	89	7,744	6,188	504	8,248
Pennsylvania	9,317,647	230	27,910	19 824	44	28,345	25,312	25	3,618	3,004	117	7,011	3,807	416	64,884	51,947	3,100	67,984
Rhode Island	679,260	18	2,202	1,558	4	2,276	2,149	2	461	362	14	817	441	38	5,756	4 510	278	6 034
South Carolina	1,779,084	35	1,973	1,024	3	2,905	2,811	6	248	207	18	449	178	62	5,575	4 220	199	5,774
South Dakota	681,260	37	2,087	1,285	2	1 825	1,695	1	96	88	18	649	379	58	4,657	3,447	205	4,862
Tennessee	2,424,616	57	4,192	2,651	10	3,852	3 506	7	1,755	1,380	27	1,112	700	101	10,911	8,237	330	11 241
Texas	5,097,574	159	8,326	4,813	15	8,515	8 141	20	1,524	1,138	50	3,248	2,088	244	21,613	16,180	666	22,279
Utah	492,478	26	1,244	822	2	782	756	.			10	147	64	38	2,173	1,642	132	2,305
Vermont	352,428	24	948	572	4	1,715	1,560	2	98	80	9	250	129	39	3 011	2 361	125	3,136
Virginia	2,449,443	62	3,927	2,381	10	6,265	6,101	7	837	766	34	2,768	1,695	106	13 797	10 946	377	14,174
Washington	1,478,214	80	4,860	3,145	8	5,052	4,708	8	741	607	39	2,516	1,404	135	13,169	9,864	712	13 881
West Virginia	1,601,120	54	3,363	1,899	3	3,160	2,961	4	374	334	8	306	219	69	7,203	5 416	267	7 470
Wisconsin	2 801,008	117	7,558	4,805	47	11,167	10 279	18	1,341	1,183	44	2 905	1,922	226	22,971	18 194	1,068	24,039
Wyoming	221 812	23	878	426	2	515	516	.			10	772	544	37	2,165	1,486	116	2,281
Totals	113 493,720	4,041	293,301	193,743	589	341,480	322,342	466	49,131	39,069	1,797	118,153	73,608	6,896	802,065	629,362	34,511	836,576
Percentage of beds in use				66			94	..		80 7			62			78		
Population per bed			386			332	..	..	2,310			960			141			

Population given in column one is according to estimate for 1925 by the United States Bureau of the Census, except for Florida, Iowa, Kansas, Massachusetts, New York, Rhode Island, South Dakota and Wyoming, which took a state census in 1925 The number of beds and the average beds in use throughout the table are exclusive of bassinets, the number of which is given for each state in the column at the extreme right

Statistics on other types of hospitals are included in table 8, page 1014, giving number, capacity, average beds in use and other data

The hospitals of the Possessions of the United States, from which it was impossible to obtain complete data in time for this article, number as follows.

Alaska, 29 hospitals, 594 beds
Canal Zone, 11 hospitals, 2 904 beds
Hawaii, 47 hospitals, 3,210 beds.
Philippine Islands, 68 hospitals, 10,072 beds
Porto Rico, 42 hospitals, 2,226 beds
Total, 197 hospitals, 19,006 beds

There are in the United States at present a total of 6,896 hospitals of all types and kinds with 802,065 beds, constantly caring for an average of 629,362 patients. The hospital departments of institutions to the number of 607, with 23,807 hospital beds and an average of 13,404 patients, are included in the foregoing figures. In addition to the total capacity just given there are 34,511 bassinets or baby cribs, making a grand total capacity for patients, including new-born infants, of 836,576. The average number of bassinets occupied is not known, but to leave them out of the count for the time being, we find that 66 per cent of all the hospital beds in the United States are constantly filled, as compared with 67 per cent for 1920 and 64 per cent in 1923.

THE 1925 CENSUS OF HOSPITALS

In making this 1925 census, the hospitals of less than five beds capacity were not counted. In regard to the 607 hospital departments of institutions, only the beds were counted that are actually used in caring for the sick, omitting entirely all that large unknown number of beds used for custodial purposes. The various data are given by states wherever such information is believed to be of value; for comparison, the corresponding figures are given for 1920 and 1925, respectively. Whenever population figures are referred to, the 1925 estimate of the U. S. Bureau of the Census at Washington are used except in Florida, Iowa, Kansas, Massachusetts, New York, Rhode Island, South Dakota and Wyoming, in which actual returns of state censuses taken in 1925 are used.

Table 2.—*Counties With and Without Hospitals for Community Use*

State	Number of Counties 1925	Counties Without Hospitals (per Cent) 1920	1925	Ratio Beds to Population 1920	1925	Percentage of Beds Occupied 1920	1925
Alabama	67	74.6	56.7	767	646	49	51
Arizona	14	14.3	7.2	251	251	59	59
Arkansas	75	76.0	62.6	857	696	48	51
California	58	20.7	10.3	174	174	76	70
Colorado	63	53.9	46.0	209	209	72	63
Connecticut	8	0.0	0.0	312	225	73	68
Delaware	3	66.7	33.3	441	441	66	50
Dist. Columbia	1	0.0	0.0	165	58	73	83
Florida	63	76.0	47.6	583	511	58	58
Georgia	161	81.6	68.3	897	695	65	59
Idaho	44	63.4	52.2	432	432	54	52
Illinois	102	41.2	31.3	282	275	66	69
Indiana	92	42.4	32.6	500	366	66	63
Iowa	99	43.4	27.2	377	332	65	62
Kansas	105	57.1	41.9	465	410	62	56
Kentucky	120	73.3	59.1	653	548	64	57
Louisiana	64	75.0	65.6	507	378	74	65
Maine	16	12.5	0.0	389	362	60	61
Maryland	24	45.8	37.5	231	235	71	78
Massachusetts	14	7.2	7.2	254	250	63	70
Michigan	83	42.2	28.9	398	297	69	72
Minnesota	87	26.7	17.2	236	228	65	66
Mississippi	82	73.2	62.2	1,054	778	66	56
Missouri	115	77.4	61.7	431	269	64	75
Montana	56	36.4	26.8	220	274	59	52
Nebraska	93	62.4	48.3	369	304	66	59
Nevada	17	18.7	17.6	328	164	48	47
New Hampshire	10	0.0	0.0	154	268	60	63
New Jersey	21	9.5	4.9	320	207	59	72
New Mexico	31	46.4	45.1	259	259	66	52
New York	62	13.1	9.7	185	200	68	74
North Carolina	100	60.0	49.0	761	517	63	60
North Dakota	53	54.7	47.1	393	419	64	65
Ohio	88	37.5	28.4	388	373	66	68
Oklahoma	77	65.0	46.7	980	736	58	52
Oregon	36	36.1	19.4	246	246	67	70
Pennsylvania	67	20.9	20.9	286	214	69	75
Rhode Island	5	40.0	20.0	288	250	75	71
South Carolina	46	60.0	50.0	881	797	63	54
South Dakota	69	69.6	52.1	321	420	61	53
Tennessee	95	77.1	65.2	679	440	66	68
Texas	253	50.6	62.1	617	494	58	59
Utah	29	69.0	51.7	396	396	63	65
Vermont	14	28.6	28.5	470	224	69	75
Virginia	100	71.0	60.0	484	661	67	63
Washington	39	38.4	20.0	253	253	66	66
West Virginia	55	50.9	43.6	400	447	50	56
Wisconsin	71	36.6	15.4	318	224	66	74
Wyoming	22	33.3	31.8	278	289	72	55
Totals	3,069	56.0	44.0	340	291	67	69

The ratio of beds to population, found by dividing the total capacity (exclusive of bassinets) of 802,065 into the population of the United States for 1925, 113,493,720, gives a ratio of one bed to 141.5 inhabitants. This, of course, is merely a gross average, and further details regarding the ratio of beds to population in different states and districts and for different types of hospitals will be found elsewhere in this article.

The five states having the largest hospital facilities are: New York, with 630 hospitals and 115,128 beds; Pennsylvania, 416 hospitals, 64,884 beds; Illinois, 380 hospitals, 54,960 beds; California, 490 hospitals, 47,328 beds, and Massachusetts, with 305 hospitals and 45,302 beds. At the other end of the scale, the states that require the least hospital facilities are: Nevada, with 25 hospitals and 913 beds; Delaware, 15 hospitals, 1,421 beds, and Wyoming, with 37 hospitals and 2,165 beds.

The ratio of beds to population in New York is one to 96.9; Pennsylvania, 143.6; Illinois, 126.7; California, 84.9; Massachusetts, 91.7; Nevada, 84.7, Delaware, 165, and Wyoming, 102.4.

THE UNIVERSAL SERVICE OF GENERAL HOSPITALS

While the number and capacity of hospitals for nervous and mental patients is impressive, if indeed not startling, a moment's reflection tells us that those figures are supplied in the main by the large state insane asylums and other large institutions used in a large degree for custodial purposes, and that by far the great majority of all kinds of acute medical and surgical work is done in that large group known as general hospitals which, though averaging smaller in size, are distributed all over the country, as will be seen on the maps illustrating this issue, to the number of 4,041 general hospitals containing 293,301 beds, 193,743, or 66 per cent of which, are occupied all the time. While the importance of special hospitals accounted for in this survey is in no sense minimized and their number is increasing, especially in the large metropolitan centers, yet it appears that the large bulk of the practice of the so-called medical specialties takes place in the general hospitals. Accurate figures are not obtainable on the number of beds and number of patients in each of the several specialties in the general hospitals, since the large majority of them do not have the services very definitely divided, it being much more economical to let the supply of beds be flexible rather than to have a certain number of beds set aside for certain types of cases. To illustrate, the number of maternity cases cared for in the general hospitals is not known, but we do know that the 220 maternity hospitals with their 6,248 beds care for an average of 4,019 patients, not including the new-born infants. We know that these maternity hospitals have a total of 3,366 bassinets; and since we may assume that the remaining 31,145 bassinets are almost wholly in the general hospitals, it is seen, judging by this rather reliable criterion, that only a little more than a tenth of the obstetric work of hospitals is done in maternity hospitals, and nearly nine tenths mainly in the maternity departments of the general hospitals.

A graphic idea of the distribution of general hospitals is gained by glancing at the maps that illustrate this issue, symbols being used to indicate types of hospitals and showing which hospitals have been established in the last five years. It is especially worth while to notice the open white symbols showing the numerous instances in which general hospitals have been built in rural sections or small towns, where previously there was not a hospital for many miles.

HOSPITALS FOR THE NERVOUS AND MENTAL

In point of capacity, the 589 hospitals for nervous and mental patients, with a total capacity of 341,480 beds, loom extremely large. The fact that 94 per cent of these beds are filled all the time, with a total of 322,342 patients ranging all the way from mild cases to the more serious and hopeless ones, might indeed be contemplated with a degree of alarm. Of course, it is well known that the 322,342 nervous and mental patients in institutions is only a part of the large number of people suffering from that type of ailment. From an economic point of view, this group of sufferers means large public expense. Since the cases are mainly chronic and the patients therefore indigent, the bulk of their care devolves on the state and indirectly on the people at large.

There are one or more institutions maintained in practically every state for those who are not in position to take advantage of the care and treatment in the smaller sanatoriums under private control, of which there are a large number. The plan used by the majority of states has been to care for this type of patients in large institutions running into hundreds and even thousands of beds in capacity. In one or two states, the policy has been to have more but smaller institutions. In Wisconsin there are forty-seven hospitals for the nervous and mental and they are maintained by counties. New York heads the list of states, with sixty institutions having a total of 52,355 beds and 50,486 patients; Wisconsin, forty-seven institutions, 11,167 beds and 10,279 patients; Pennsylvania, forty-four institutions having 26,345 beds and 25,312 patients, and Massachusetts, thirty-six institutions having 21,494 beds and 20,671 patients

These figures should be contrasted with the states of small population like Nevada with one state nervous and mental hospital having 300 beds and only 222 patients; New Mexico, one with 492 beds and 457 patients, or Delaware with two, having 750 beds and 626 patients.

TUBERCULOSIS HOSPITALS

While the sufferers from nervous and mental ailments are nearly evenly distributed over the entire United States in a certain ratio to the entire population, those suffering from tuberculosis are distributed much more according to climate

In this connection, a glance at the figures relative to tuberculous patients in different states shows at once the contrast, there being, for example, in the state of Colorado, with its population of 1,019,286, a total average of 1,475 patients, or one for each 691 of population; Arizona, with a population of 407,702, a total average of 348 patients, one to each 1,171 of population; California, with a population of 4,021,320, a total average of 2,219 patients, one to each 1,812 of population.

Contrasted with these figures are such states as Florida, which reports only one tuberculosis sanatorium, with an average of twenty-two patients, population, 1,263,549, one to each 57,434; and South Dakota, having only one institution, with an average of eighty-eight patients, and a population, 681,260; or one tuberculous patient to 7,741 population.

Along with better understanding of how to handle tuberculosis there is an increasing tendency to care for such patients in practically whatever locality the patient may live, rather than to move him to those localities which heretofore have had unwarranted reputation for beneficial effects It might be remarked in passing that many patients, particularly those who delayed the move too long, have found their long trip to the Southwest a vain one, and in too many instances have become a public charge on the already overburdened citizens of that community In some instances as high as 55 per cent of the total taxes of certain localities in the Southwest has gone to the care of hopelessly stranded tuberculous patients who have come in from other parts, seeking in vain for health.

An outstanding and commendable movement on the part of hospitals at the present time is that for the care of tuberculous patients in general hospitals. This movement promises considerable relief from both a medical and an economical point of view, and will doubtless increase to much larger proportions as rapidly as the general hospitals and the public come to realize the safety with which those afflicted with tuberculosis can be cared for in general hospitals when the proper precautions are understood and observed.

HOSPITALS FOR COMMUNITY USE

The accompanying list of hospitals for community use omits the state and other institutions that are devoted largely to the custodial care of incurable nervous or insane patients; hospitals limited to government beneficiaries, and the hospital departments of institutions for the deaf, blind and crippled and aged persons and prison hospitals. Hospitals of less than ten beds are not named, but the number of them is given at the end of the list for each state

TABLE 3—*Counties With and Without Hospitals Comparing 1920 and 1925*

	Total Counties		Counties Having Hospitals		Counties Without Hospitals		Percentage Having No Hospitals	
State	1920	1925	1920	1925	1920	1925	1920	1925
Alabama	67	67	17	29	50	38	74.6	56.7
Arizona	14	14	12	13	2	1	14.3	7.2
Arkansas	75	75	18	28	57	47	76.0	62.6
California	58	58	46	52	12	6	20.7	10.3
Colorado	63	63	29	34	34	29	53.9	46.0
Connecticut	8	8	8	8	0	0	0.0	0.0
Delaware	3	3	1	2	2	1	66.7	33.3
Dist of Columbia	1	1	1	1	0	0	0.0	0.0
Florida	54	63	13	33	41	30	76.0	47.6
Georgia	152	161	28	51	124	110	81.6	68.3
Idaho	41	44	15	21	26	23	63.4	52.2
Illinois	102	102	61	70	41	32	41.2	31.3
Indiana	92	92	53	62	39	30	42.4	32.6
Iowa	99	99	56	72	43	27	43.4	27.2
Kansas	105	105	45	61	60	44	57.1	41.9
Kentucky	120	120	32	45	88	75	73.3	62.5
Louisiana	64	64	16	22	48	42	75.0	65.6
Maine	16	16	14	16	2	0	12.5	0.0
Maryland	24	24	13	15	11	9	45.8	37.5
Massachusetts	14	14	13	13	1	1	7.2	7.2
Michigan	83	83	48	59	35	24	42.2	28.9
Minnesota	86	87	63	72	23	15	26.7	17.2
Mississippi	82	82	22	31	60	51	73.2	62.2
Missouri	115	115	26	44	89	71	77.4	61.7
Montana	44	56	28	41	16	15	36.4	26.8
Nebraska	93	93	35	48	58	45	62.4	48.3
Nevada	16	17	13	14	3	3	18.7	17.6
New Hampshire	10	10	10	10	0	0	0.0	0.0
New Jersey	21	21	19	20	2	1	9.5	4.8
New Mexico	28	31	15	17	13	14	46.4	45.1
New York	61	62	53	56	8	6	13.1	9.7
North Carolina	100	100	40	51	60	49	60.0	49.0
North Dakota	53	53	24	28	29	25	54.7	47.1
Ohio	88	88	55	63	33	25	37.5	28.4
Oklahoma	77	77	27	41	50	36	65.0	46.7
Oregon	36	36	23	29	13	7	36.1	19.4
Pennsylvania	67	67	54	53	13	14	20.9	20.9
Rhode Island	5	5	3	4	2	1	40.0	20.0
South Carolina	45	46	18	23	27	23	60.0	50.0
South Dakota	69	69	21	33	48	36	69.6	52.1
Tennessee	96	95	22	33	74	62	77.1	65.2
Texas	251	253	64	96	187	157	50.6	62.1
Utah	29	29	9	14	20	15	69.0	51.7
Vermont	14	14	10	10	4	4	28.6	28.5
Virginia	100	100	29	40	71	60	71.0	60.0
Washington	39	39	24	31	15	8	38.4	20.5
West Virginia	55	55	27	31	28	24	50.9	43.6
Wisconsin	71	71	45	60	26	11	36.6	15.4
Wyoming	21	22	14	15	7	7	33.3	31.8
Totals	3,027	3,069	1,332	1,715	1,695	1,354	56.0	44.0

Several hospitals that are reputed to be flagrantly unethical or to be harboring immoral or unqualified practitioners have been omitted from the list

The majority of the hospitals listed are general medical and surgical organizations, including hospitals for the treatment of tuberculosis, nervous and mental, and hospitals designated as maternity, orthopedic and pediatric. Those marked with a star (*) are approved by the Council on Medical Education and Hospitals for internships or the fifth year in medicine. Those that are approved for residencies for graduates who have already had a general internship are marked with a dagger (†).

Table 4.—*Hospitals for Community Use Shown by States in District Groups*

State	Number of Counties 1925	Counties Without Hospitals (per Cent)		Ratio Beds to Population		Percentage of Beds Occupied	
		1920	1925	1920	1925	1920	1925
North Atlantic States							
Maine	16	12.5	0.0	389	362	60	61
New Hampshire	10	0.0	0.0	328	268	60	63
Vermont	14	28.6	28.5	470	224	69	75
Massachusetts	14	7.2	7.2	254	250	63	70
Rhode Island	5	40.0	20.0	288	250	75	71
Connecticut	8	0.0	0.0	312	225	73	68
New York	62	13.1	9.7	185	200	68	74
New Jersey	21	9.5	4.8	320	207	59	72
Pennsylvania	67	20.9	20.9	286	214	69	75
Totals	217	15.3	12.4	242	216	67	70
South Atlantic States							
Delaware	3	66.7	33.3	444	444	66	50
Maryland	24	45.8	37.5	231	235	71	78
Dist. Columbia	1	0.0	0.0	165	58	73	83
Virginia	100	71.0	60.0	484	661	67	63
West Virginia	55	50.9	43.6	400	447	50	56
North Carolina	100	60.0	49.0	761	517	63	60
South Carolina	46	60.0	50.0	881	797	63	54
Georgia	161	81.6	68.3	897	695	65	59
Florida	63	76 0	47.6	583	511	58	58
Totals	553	68.4	55.3	508	407	65	68
North Central States							
Ohio	88	37.5	28.4	388	373	66	68
Indiana	92	42.4	32.6	500	366	66	63
Illinois	102	41.2	31.3	282	275	66	69
Michigan	83	42.2	28.9	398	297	69	72
Wisconsin	71	36.6	15.4	348	224	66	74
Minnesota	87	26.7	17.2	236	228	65	66
Iowa	99	43.4	27.2	377	332	65	62
Missouri	115	77.4	61.7	431	269	64	75
North Dakota	53	54.7	47.1	393	419	61	65
South Dakota	69	69 6	65.2	321	420	61	53
Nebraska	93	62.4	48.3	369	304	66	59
Kansas	105	57.1	41.9	465	410	62	56
Totals	1,057	62.0	36.3	355	301	66	68
South Central States							
Kentucky	120	73.3	62.5	653	548	64	57
Tennessee	95	77.1	65.2	679	440	66	68
Alabama	67	74.6	56.7	767	646	49	54
Mississippi	82	73.2	62.2	1,054	778	66	56
Louisiana	64	75.0	65.6	507	378	74	65
Texas	253	50.6	62.1	617	494	58	59
Arkansas	75	76.0	62.6	857	696	48	51
Oklahoma	77	65.0	46.7	980	736	58	52
Totals	833	73.8	61.0	705	544	61	59
Western States							
Montana	56	36.4	26.8	220	274	59	52
Wyoming	22	33.3	31.8	278	289	72	55
Colorado	63	53.9	46.0	198	209	72	63
New Mexico	31	46.4	45.1	237	259	66	52
Arizona	14	14.3	7.2	196	251	59	59
Utah	29	69.0	51.7	430	396	63	65
Nevada	17	18.7	17.6	139	154	48	47
Idaho	44	63.4	52.2	430	432	54	52
Washington	39	38.4	20.5	243	253	66	66
Oregon	36	36.1	19.4	313	246	67	70
California	58	20.7	10.3	210	174	76	70
Totals	409	41.4	31.1	211	218	69	66
All states	3,069	56 0	44.0	340	291	67	69

This list is intended solely as an inventory of community hospital resources rather than a complete list of all institutions. It accounts for a total of 4,967 hospitals, including 189 of less than ten beds capacity. The total beds amount to 388,890, the average number in use being 269,494. Bassinets were not counted as beds (table 1).

The ratio of beds to population varies greatly with communities, as will be seen by reference to table 4, showing, for example, in the District of Columbia an effective supply of hospital beds at the rate of one for each 58 persons; Nevada, one for each 154 persons, and California, one for each 174 persons. Contrast with these the situation of South Carolina, where one bed must suffice for 797 persons; Mississippi, 778, and Oklahoma 736.

The average number of patients in these hospitals for community use is 69 per cent of the capacity, as compared with 67 per cent in 1920; also during the last five years there has been an increase in this kind of hospital service from 4,013 to 4,967 hospitals and from 311,159 to 388,890 hospital beds. Increases and decreases in hospitals of all types are shown in table 8.

The accompanying tables indicate that in certain states, even where the number of hospital beds is low in proportion to population, there is still a large percentage of the hospital beds unused. The largest percentage of idle beds appears to be in Delaware, where only 50 per cent of the beds are in use; next comes Arkansas with 51 per cent and Idaho, Montana, New Mexico and

Table 5.—*Physicians Having Hospital Connection*

State	Physicians on Staff Lists		Resident Physicians		Interns		Physicians as Superintendents	Total Physicians Connected with Hospitals
	Number of Staffs	Physicians on List	Hospitals Having	Number of Residents	Hospitals Having Interns	Number of Interns		
Alabama	61	825	44	83	14	33	32	973
Arizona	44	280	35	70	1	1	28	379
Arkansas	40	480	31	58	7	17	36	591
California	330	5,797	158	432	51	299	195	6,723
Colorado	79	1,717	40	83	16	62	47	1,909
Connecticut	60	1,644	44	102	18	87	34	1,866
Delaware	10	208	7	14	4	8	5	235
Dist Columbia	20	714	27	91	18	109	25	939
Florida	44	514	29	62	6	11	35	622
Georgia	64	984	44	90	22	74	52	1,200
Idaho	39	235	22	35	1	1	22	293
Illinois	275	5,025	132	318	84	502	138	5,913
Indiana	100	1,910	56	115	22	93	55	2,173
Iowa	135	1,757	52	84	17	59	68	1,968
Kansas	102	1,026	35	66	11	48	47	1,187
Kentucky	78	910	45	97	18	54	46	1,107
Louisiana	47	819	32	96	19	121	32	1,098
Maine	48	607	21	34	4	8	23	672
Maryland	59	1,932	53	170	26	174	44	2,320
Massachusetts	196	4,676	123	359	83	374	122	5,531
Michigan	164	2,522	80	215	37	250	84	3,071
Minnesota	160	2,302	82	161	26	157	99	2,719
Mississippi	48	370	30	57	7	15	42	484
Missouri	128	2,937	82	190	42	210	76	3,413
Montana	45	285	26	51	4	6	20	362
Nebraska	77	836	48	79	18	61	53	1,029
Nevada	13	65	7	12	1	1	14	92
New Hampshire	39	451	13	23	1	1	12	487
New Jersey	138	3,121	67	132	52	192	57	3,502
New Mexico	32	138	24	49	1	4	27	218
New York	464	12,783	236	797	207	1,336	239	15,155
North Carolina	108	831	65	108	16	27	59	1,025
North Dakota	36	303	14	25	1	1	10	339
Ohio	202	3,028	98	251	66	280	89	3,648
Oklahoma	86	756	38	71	10	23	44	894
Oregon	64	543	19	38	9	31	20	682
Pennsylvania	311	5,947	154	309	114	652	139	7,047
Rhode Island	27	696	12	39	11	33	17	785
South Carolina	47	433	18	40	13	29	20	522
South Dakota	40	223	20	43	1	1	20	287
Tennessee	63	1,092	50	109	29	102	54	1,357
Texas	64	2,452	99	207	35	105	111	2,875
Utah	24	481	17	25	6	13	21	540
Vermont	28	267	6	12	4	11	16	290
Virginia	73	1,130	52	108	31	83	42	1,363
Washington	82	1,367	41	80	12	35	55	1,537
West Virginia	44	429	48	76	14	26	40	571
Wisconsin	160	1,614	64	128	33	89	66	1,897
Wyoming	25	129	13	21	1	1	16	167
Totals	4,623	79,621	2,552	5,945	1,214	5,910	2,648	94,124

Oklahoma, each 52 per cent. States representing the highest percentage of beds in use are: District of Columbia, 83 per cent; Maryland, 78 per cent; Missouri, Pennsylvania and Vermont, 75 per cent.

The encouraging progress that is undoubtedly being made all over the United States in placing hospitals in districts that have heretofore been entirely without them is indicated on the maps, particularly by the open white symbols indicating where hospitals have been opened within the last five years.

Table 6.—*Physicians, Nurses and Others as Superintendents of Hospitals*

State	State and Federal Hospitals			Other Hospitals			Totals			
	M.D.	R.N.	Other	M.D.	R.N.	Other	Hosp.	M.D.	R.N.	Other
Alabama	11	..	3	21	37	24	101	32	37	27
Arizona	12	1	11	16	5	36	83	28	6	47
Arkansas	9	..	1	27	16	17	70	36	16	18
California	33	..	9	162	95	187	490	195	95	196
Colorado	8	..	6	39	20	50	124	47	20	56
Connecticut	10	..	6	24	25	23	88	34	25	29
Delaware	3	1	1	2	5	3	15	25	6	4
Dist. of Columbia	11	..	1	14	3	10	40	25	3	11
Florida	7	..	2	28	17	16	70	35	17	18
Georgia	12	..	2	40	20	24	99	52	20	26
Idaho	5	1	5	17	8	18	54	22	9	23
Illinois	23	1	7	115	70	163	380	138	71	170
Indiana	12	..	12	43	44	55	167	55	44	67
Iowa	15	1	6	53	54	67	197	68	55	73
Kansas	15	1	7	32	50	41	147	47	51	48
Kentucky	12	..	3	34	31	37	117	46	31	40
Louisiana	8	..	2	24	14	17	67	32	14	19
Maine	10	..	1	13	27	18	70	23	27	19
Maryland	21	2	3	23	24	20	93	44	26	23
Massachusetts	32	..	7	90	115	59	305	122	115	66
Michigan	21	..	5	63	71	68	228	84	71	73
Minnesota	16	..	10	83	57	66	232	99	57	76
Mississippi	10	..	1	32	12	11	66	42	12	12
Missouri	14	1	4	62	30	68	180	76	31	72
Montana	6	..	7	14	17	26	70	20	17	33
Nebraska	11	..	6	42	30	32	122	53	30	38
Nevada	1	1	4	13	3	3	25	14	4	7
New Hampshire	4	..	2	8	18	19	51	12	18	21
New Jersey	10	1	11	47	46	64	180	57	47	75
New Mexico	10	..	6	17	6	13	53	27	6	19
New York	53	..	8	186	139	243	630	239	139	251
North Carolina	8	2	4	51	46	42	153	59	48	46
North Dakota	4	..	5	6	17	20	52	10	17	25
Ohio	24	..	6	65	71	137	306	89	71	143
Oklahoma	14	..	9	30	25	34	113	44	25	43
Oregon	6	..	4	14	24	41	89	20	24	45
Pennsylvania	25	3	9	114	108	157	416	139	111	166
Rhode Island	6	..	4	11	7	10	38	17	7	14
South Carolina	6	..	4	14	19	17	62	20	19	21
South Dakota	6	1	9	14	14	13	58	20	15	22
Tennessee	10	..	3	44	16	27	101	54	16	30
Texas	20	..	7	91	57	66	244	111	57	73
Utah	3	1	2	18	3	11	38	21	4	13
Vermont	5	..	2	11	7	14	39	16	7	16
Virginia	18	..	6	24	36	21	106	42	36	27
Washington	20	2	5	35	25	48	135	55	27	53
West Virginia	8	..	2	32	15	12	69	40	15	14
Wisconsin	11	..	11	55	45	100	226	66	45	111
Wyoming	4	1	3	12	11	6	37	16	12	9
Totals	623	21	254	2,025	1,655	2,274	6,896	2,648	1,676	2,528

PHYSICIANS CONNECTED WITH HOSPITALS

In connection with the 1925 census of hospitals, each institution was asked to send in a list of the physicians on its staff, also separate lists of resident physicians and of interns, and to indicate whether the superintendent or administrative head is a physician. The total number of physicians connected with hospitals, as reported on all these lists, is 94,124, and they are distributed as follows: staff, 79,621; resident physicians, 5,945; superintendents, 2,648, and interns, 5,910. In making this count it has not been possible to eliminate duplicates, of which there are many, because of individual physicians serving on more than one staff. On the other hand, no estimate is offered for those hospitals that failed to turn in their staff lists. There are 3,290 physicians on the paid staffs of 485 state, federal and national government hospitals, 433 being in New York State alone; 245 in Maryland; 237 in Pennsylvania; 197 in California, and 181 in Illinois. The 4,138 civilian hospitals that sent in staff lists had a total of 76,331 physicians on their staffs. The largest number of physicians accommodated in civilian hospitals in each of the largest states are as follows: New York, 12,350; Pennsylvania, 5,710; Illinois, 4,844, and Massachusetts, 4,513. There are 5,945 resident physicians hired by 2,552 hospitals. Six hundred and twenty-two state and federal hospitals employ 2,548 resident physicians, and 1,930 civilian hospitals have a total of 3,397 resident physicians.

PHYSICIANS AS HOSPITAL ADMINISTRATORS

Without arguing the question as to whether a medically trained man is to be preferred as a hospital superintendent, it seems quite certain that the number of such superintendents has not increased in the last two or three years. In all the 6,896 hospitals in the United States at the present time, 2,648 are administered by physicians, as compared with 2,668 in 1923. On the other hand, the number of registered nurses acting as superintendents has increased from 1,283 in 1923 to 1,676 in 1925. Superintendents having neither the M.D. nor the R.N. degree numbered 2,810 in 1923 and

Table 7.—*The Supply of Interns*

State	Hospitals Using Interns			Number of Interns			Lack of Interns	
	State and Federal	Other	Total	State and Federal	Other	Total	Hospitals	Total Lack
Alabama	...	14	14	...	33	33	6	8
Arizona	...	1	1	...	1	1	...	...
Arkansas	...	7	7	...	17	17	1	2
California	9	42	51	54	245	299	5	6
Colorado	3	13	16	26	36	62	4	9
Connecticut	1	17	18	4	83	87	3	6
Delaware	...	4	4	...	8	8	...	...
District of Columbia	6	12	18	58	51	109	4	4
Florida	...	6	6	11	...	11	2	2
Georgia	2	20	22	2	72	74	1	2
Idaho	...	1	1	...	1	1	...	...
Illinois	3	81	84	15	487	502	20	32
Indiana	3	19	22	14	79	93	4	4
Iowa	4	13	17	33	26	59	9	12
Kansas	4	7	11	29	19	48	...	...
Kentucky	2	16	18	2	52	54	3	3
Louisiana	3	16	19	61	60	121	3	4
Maine	...	4	4	...	8	8	1	1
Maryland	4	22	26	22	152	174	3	3
Massachusetts	11	72	83	39	335	374	7	13
Michigan	2	35	37	38	212	250	10	23
Minnesota	3	23	26	16	141	157	7	11
Mississippi	4	3	7	12	3	15	5	5
Missouri	...	42	42	...	210	210	7	9
Montana	...	4	4	...	6	6	...	...
Nebraska	2	16	18	10	51	61	1	1
Nevada	...	1	1	...	1	1	...	...
New Hampshire	...	1	1	...	1	1	2	3
New Jersey	1	51	52	1	191	192	10	15
New Mexico	1	...	1	4	...	4	...	...
New York	20	187	207	82	1,254	1,336	34	60
North Carolina	...	16	16	...	27	27	6	7
North Dakota	...	1	1	...	1	1	1	1
Ohio	6	60	66	14	266	280	3	4
Oklahoma	1	9	10	8	15	23	2	2
Oregon	...	9	9	...	31	31	2	2
Pennsylvania	9	105	114	46	606	652	...	...
Rhode Island	3	8	11	3	30	33	3	3
South Carolina	...	13	13	...	29	29	4	7
South Dakota	...	1	1	...	1	1	1	5
Tennessee	5	24	29	10	92	102	3	6
Texas	2	33	35	20	85	105	10	12
Utah	...	6	6	...	13	13	2	2
Vermont	1	3	4	1	10	11	1	2
Virginia	8	23	31	31	52	83	7	9
Washington	...	12	12	...	35	35	...	...
West Virginia	4	10	14	12	14	26	3	4
Wisconsin	2	31	33	8	81	89	2	3
Wyoming	...	1	1	...	1	1	1	1
Totals	129	1,115	1,244	686	5,224	5,910	203	308

	Total Beds	Av. Beds in Use
Tuskegee, 2,475—Macon		
Macon Co. Hospital, Inc.	15	5
Tuskegee Institute, 118—Macon		
John A. Andrew Mem. Hosp ★ (col.)	64	35
Two General Hospitals of less than 10 beds	15	8
Total for community use, 79	3,814	2,083

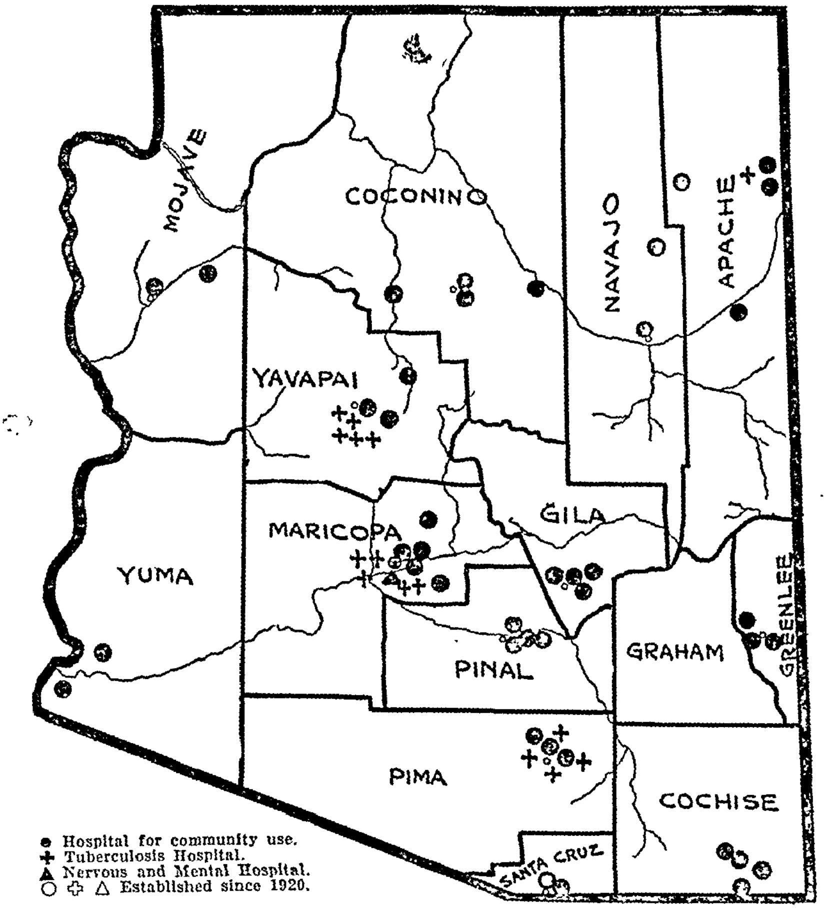
In Alabama the following thirty-eight counties have no hospitals for community use: Baldwin, Bibb, Blount, Bullock, Chambers, Cherokee, Chilton, Choctaw, Clarke, Clay, Cleburne, Coffee, Conecuh, Coosa, Crenshaw, Cullman, Dale, DeKalb, Fayette, Franklin, Geneva, Greene, Hale, Henry, Lamar, Lawrence, Limestone, Lowndes, Marion, Marshall, Monroe, Perry, Pickens, Russell, Shelby, Sumter, Washington, Wilcox.

ARIZONA

	Total Beds	Av. Beds in Use
Ajo, 50—Pima		
New Cornelia Copper Co. Hosp.	35	30
Bisbee, 9,205—Cochise		
Calumet and Arizona Hospital	50	30
Copper Queen Hospital	50	25
Clifton, 4,164—Greenlee		
Phelps-Dodge Hospital	10	1
Douglas, 9,916—Cochise		
Calumet Hospital	25	12
Cochise County Hospital	40	30
Flagstaff, 3,186—Coconino		
Coconino County Hospital	24	12
Mercy Hospital	10	4
Florence, 161—Pinal		
Pinal County Hospital	20	10
Ft. Defiance, 150—Apache		
Hospital of the Good Shepherd	35	25
Ganado, 100—Apache		
Ganado Mission Presbyterian Hospital	24	15
Globe, 7,044—Gila		
Gila County Hospital	52	32
Old Dominion Hospital	15	10
Hayden, 582—Gila		
Hayden Hospital	12	6
Indian Wells, 26—Navajo		
Good Samaritan Hospital	14	4
Jerome, 2,393—Yavapai		
United Verde Hospital	50	30
Kingman, 855—Mohave		
Mohave County Hospital	30	12
Mesa, 3,036—Maricopa		
South Side District Hospital	36	12
Miami, 6,689—Gila		
Miami-Inspiration Hospital	40	27
Morenci, 5,100—Greenlee		
Phelps-Dodge Hospital	18	6
Nogales, 5,199—Santa Cruz		
Dr. Chenoweth's Private Hosp.	10	7
St. Joseph's Hospital	18	4
Phoenix, 38,669—Maricopa		
Arizona Deaconess Hospital	97	50
Booker T. Washington Memorial Hospital and Sanatorium	20	8
Helen Lee Sanatorium (T.B.)	14	10
Maricopa Co. Tuberculosis Hosp.	38	25
Park View Sanatorium (T.B.)	28	20
The Phoenix Sanatorium (T.B.)	80	40
Rest Haven Sanit. (N.& M.)	17	12
St. Joseph's Hospital	120	78
St. Luke's Hospital (T.B.)	65	45
Valley View Sanatorium	14	8
Williams Mesquite Camp (T.B.)	35	12
Prescott, 4,380—Yavapai		
Mercy Hospital	36	16
Pamsetgaaf Sanatorium (T.B.)	26	18
Prescott Pines Sanat. (T.B.)	25	6
St. Luke's in the Mountains (T.B.)	48	45
Yavapai County Hospital	50	30
Ray, 25—Pinal		
Ray Hospital	16	7
Tucson, 26,733—Pima		
Hillcrest Sanatorium (T.B.)	22	15
Pima County Hospital	28	24
St. Luke's in-the-Desert Sanitarium (T.B.)	31	30
St. Mary's Hospital and Sanat.	84	65
Tucson General Hospital	60	38
Tucson Tubercular Charity Hospital	20	12
Williams, 1,350—Coconino		
Williams Hospital	12	2
Yuma, 4,237—Yuma		
Yuma General Hospital	20	12
Total for community use, 47	1,624	972

In Arizona the following county has no hospital for community use: Graham.

ARIZONA



Total hospitals in Arizona, 83; for community use, 47; population per hospital bed, 251; percentage of beds occupied, 59; percentage of counties without hospitals, 7.2.

ARKANSAS

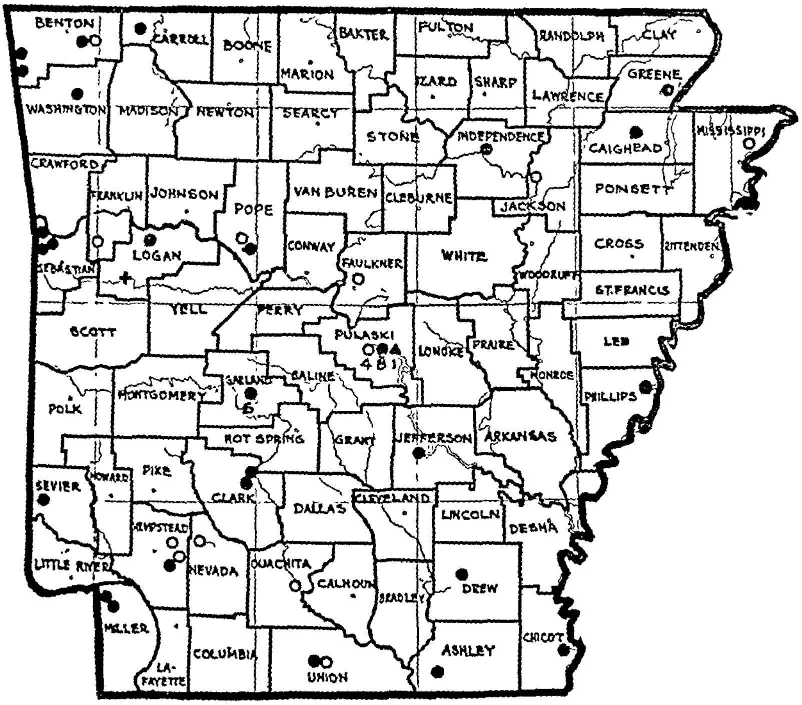
	Total Beds	Av. Beds in Use
Arkadelphia, 3,311—Clark		
Moore & Wallis Sanitarium	10	4
The Townsend Sanitarium	10	3
Batesville, 4,299—Independence		
Dorr, Gray, Johnston & Craig Sanitarium	15	5
Blytheville, 6,447—Mississippi		
Blytheville General Hospital	33	21
Camden, 3,238—Ouachita		
Camden Hospital	20	7
Charleston, 734—Franklin		
Bollinger Hospital	10	5
Conway, 4,564—Faulkner		
Faulkner County Hospital	30	15
Crossett, 2,038—Ashley		
Crossett Hospital	26	18
DeQueen, 2,517—Sevier		
DeQueen Hospital	12	6
Eldorado, 3,887—Union		
El Dorado General Hospital	30	20
Warner-Brown Hospital	85	56
Eureka Springs, 3,228—Carroll		
Huntington Hospital	10	4
Fayetteville, 5,362—Washington		
Fayetteville City Hospital	50	30
Ft. Smith, 31,643—Sebastian		
Sebastian County Hospital	75	75
Sparks' Memorial Hospital	100	50
St. Edward's Mercy Hospital	75	25
St. John's Hospital	53	26
Helena, 9,112—Phillips		
Helena Hospital	35	18
Hope, 3,639—Hempstead		
Josephine Hospital	20	5
Julia Chester Hospital	12	6
Hot Springs National Park, 11,695—Garland		
Leo N. Levi Memorial Hospital	60	40
Modern Hospital	20	10
New Park Sanitarium	16	8
Ozark Sanatorium	60	35
St. Joseph's Infirmary	88	58
Jonesboro, 9,384—Craighead		
St. Bernard's Hospital	102	38
Lake Village, 1,449—Chicot		
South East Arkansas Hospital	30	12
Little Rock, 74,216—Pulaski		
Baptist State Hospital	325	90
J. E. Bush Memorial Hospital	48	23
Little Rock General Hospital	100	62
Missouri Pacific Hospital	135	52
Pettus Surgical Infirmary	10	4
Pulaski County Hospital	200	180
Royal Circle Hosp. (Colored)	50	12
St. Vincent's Infirmary ★	135	95
Trinity Hospital	44	18
United Friends Hosp. (Colored)	25	15
Morrilton, 3,010—Conway		
St. Anthony's Hospital	12	6
Newport, 3,771—Jackson		
Elton-Matthews Sanitarium	12	5
Paragould, 6,306—Greene		
Dickson Memorial Sanitarium	22	13
Paris, 1,740—Logan		
Paris Hospital	35	13
Pine Bluff, 21,611—Jefferson		
Davis Baptist Hospital	55	24
Prescott, 2,691—Nevada		
Cora Donnell Hospital	30	21
Ratcliff, 257—Logan		
Ratcliff Clinic and Hospital	20	4
Rogers, 3,318—Benton		
Dr. Love's Sanitarium	10	3
Russellville, 4,505—Pope		
City Hospital	12	3
St. Mary's Hospital	35	18
Siloam Springs, 2,569—Benton		
City Hospital	12	4
Siloam Springs Hospital	12	12
Texarkana, 8,257—Miller		
Michael Meagher Memorial Hospital	75	45
St. Louis Southwestern Hospital	152	52
One General Hospital of less than 10 beds	7	3
Total for community use, 52	2,660	1,377

In Arkansas the following forty-seven counties have no hospitals for community use: Arkansas, Baxter, Boone, Bradley, Calhoun, Clay, Cleburne, Cleveland, Columbia, Conway, Crittenden, Cross, Dallas, Desha, Fulton, Grant, Hot Spring, Howard, Izard, Johnson, Lafayette, Lawrence, Lee, Lincoln, Little River, Lonoke, Madison, Marion, Monroe, Montgomery, Newton, Perry, Pike, Poinsett, Polk, Prairie, Randolph, St. Francis, Saline, Scott, Searcy, Sharp, Stone, Van Buren, White, Woodruff, Yell.

CALIFORNIA

	Total Beds	Av. Beds in Use
Ahwahnee, —— —Madera		
Ahwahnee Tri-Co Tuberculosis Sanatorium	108	76
A[illegible]		
[illegible] South Shore.	90	32
Alhambra, 9,096—Los Angeles		
Alhambra Hospital	50	30
Alpine, —— —San Diego		
The Alpine Sanat., Inc. (T.B.).	60	34
Alta, 113—Placer		
Alta Sanatorium (T.B.)	25	12
Altadena, —— —Los Angeles		
Echo Mountain Rest Home (T.B.)	12	8
Alturas, 979—Modoc		
Modoc County Hospital	10	5
Anaheim, 5,526—Orange		
Anaheim Sanitarium, Inc.	40	20
Arcata, 1,121—Humboldt		
Trinity Hospital	20	18
Arlington, 1,550—Riverside		
Riverside County Hospital	135	110
Artesia, 500—Los Angeles		
Artesia Hospital	20	10
Atascadero, —— —San Luis Obispo		
Wm. H. Lewis Memorial Hosp.	20	6
Auburn, 2,376—Placer		
Macbeth Sanitarium	13	10
Placer County Hospital	120	85
Avalon, 850—Los Angeles		
Catalina Hospital	12	4
Bakersfield, 23,487—Kern		
Kern General Hospital	130	115
Mercy Hospital	60	37
R. B. Rees Hospital	12	12
Victory Hospital	21	9
Banning, 1,810—Riverside		
Banning Hosp. & Sanat. (T.B.)	30	22
Mary Henderson Sanit. (T.B.).	26	24
Southern Sierras Sanat. (T.B.).	30	15
Belmont, 363—San Mateo		
Alexander Sanit., Inc. (N.& M.)	35	25
California Sanatorium (T.B.).	120	100
Charles S. Howard Foundation (T.B.)	20	14
Nerve Rest Sanit. (N.& M.)	25	15
Beresford (Belmont, P.O.), —— —San Mateo		
Community Hosp. of San Mateo County	66	36
Berkeley, 66,209—Alameda		
Albert H. Rowe Sanitarium	10	3
Alta Bates Sanatorium	40	32
Berkeley General Hospital	100	75
El Reposo Sanit. and Hospital	45	35
Brawley, 5,392—Imperial		
Brawley Hospital	28	8
Burbank, 400—Los Angeles		
Burbank Hospital	50	14
Byron Hot Springs, 30—Contra Costa		
Byron Hot Springs Sanitarium	20	10
Chico, 8,872—Butte		
Chico Sanatorium	34	22
Enloe Hospital	35	24
Sisters' Hospital	30	14
Chula Vista, 1,718—San Diego		
McNabb Hosp. and Sanitarium	30	16
Cloverdale, 823—Sonoma		
Cloverdale Hospital	20	5
Clovis, 1,157—Fresno		
McMurtry Sanitarium	11	5
Coalinga, 2,934—Fresno		
San Joaquin Hospital	15	8
Colfax, 615—Placer		
The Brown Convalescent Home (T.B.)	17	12
Bushnell Sanatorium (T.B.)	20	20
Colfax Hospital (T.B.)	60	40
Colfax School for the Tuberculous	180	140
Kathramon Sanatorium (T.B.)	20	17
Colusa, 1,846—Colusa		
Colusa County Hospital	30	30
Colusa Hospital	12	6
Compton, —— —Los Angeles		
Compton Sanit., Inc. (N.& M.).	165	89
Corona, 3,540—Riverside		
Corona Hospital	12	6
Covina, 1,652—Los Angeles		
Covina Hospital	22	11
Culver City, —— —Los Angeles		
Culver City Hospital	15	6
Tapley Sanitarium (N.& M.)	15	15
Dinuba, 3,400—Tulare		
Dinuba Sanitarium	15	10
Dorris, 214—Siskiyou		
Dorris Hospital	20	8
Downey, 1,500—Los Angeles		
Downey Hospital	12	6
Downieville, 500—Sierra		
Sierra County Hospital	20	8
Duarte, 650—Los Angeles		
Palm Grove Sanit. (N.& M.).	35	25
Dunsmuir, 1,719—Siskiyou		
Dunsmuir Hosp. and Sanitarium.	20	10
El Centro, 5,464—Imperial		
El Centro Hospital, Inc.	36	20
Eureka, 13,533—Humboldt		
Humboldt County Hospital	150	120
Humboldt Co. School for the Tuberculous	53	49
Sequoia Hospital	45	20
St. Joseph's Hospital	60	35
Union Labor Hospital	40	21
Exeter, 1,852—Tulare		
Exeter Sanitarium	12	6
Ferndale, 905—Humboldt		
Ferndale General Hospital	13	6
French Camp, 233—San Joaquin		
San Joaquin General Hospital	341	283
Fresno, 58,485—Fresno		
Burnett Sanitarium	150	72
General Hosp. of Fresno Co.★	300	296
Sample Sanitarium	28	18
Ft. Bragg, 2,408—Mendocino		
Redwood Coast Hospital, Inc.	25	12
Fullerton, 1,725—Orange		
Fullerton Hospital	20	12
Gilroy, 2,437—Santa Clara		
Gilroy Private Hospital	14	9
Glendale, 21,290—Los Angeles		
Arbor Rest Home Sanitarium	30	17
Glendale Research Hospital	40	19
Glendale Sanitarium and Hosp.	190	152
Windsor Hospital	41	20
Grass Valley, 4,006—Nevada		
W. C. Jones Memorial Hospital	20	10
Groveland, 250—Tuolumne		
Hetch Hetchy Hospital	35	5
Halcyon, —— —San Luis Obispo		
Halcyon Sanatorium	12	5
Hanford, 4,829—Kings		
Hanford Sanitarium, Inc.	30	9
Kings County Hospital	52	40
Sacred Heart Hospital	25	12
Hayward, 3,437—Alameda		
Hayward General Hospital	15	10
Healdsburg, 2,011—Sonoma		
Healdsburg General Hospital	12	4
Hermosa Beach, 679—Los Angeles		
Hermosa-Redondo Hospital	25	13
Hobart Mills, —— —Nevada		
Hobart Estate Company Hosp.	14	3
Hollister, 2,308—San Benito		
Hazel Hawkins Memorial Hosp.	15	5
San Benito County Hospital	25	12
Hollywood, —— —Los Angeles		
Benedict Maternity Hospital	22	10
Huntington Park, 4,513—Los Angeles		
Mission Hospital	30	15
Inglewood, 1,536—Los Angeles		
Inglewood Hospital	14	8
Keene, —— —Kern		
Stoney Brook Retreat (T.B.)	50	43
La Jolla, —— —San Diego		
Scripps Memorial Hospital	50	14
Scripps Metabolic Clinic	25	15
Lamanda Park, 250—Los Angeles		
Doctor Keaster's Private Hosp.	16	10
LaVina, —— —Los Angeles		
LaVina Sanatorium (T.B.)	100	56
Lincoln, 1,402—Placer		
Joslin's Sanatorium	15	10
Livermore, 1,916—Alameda		
Arroyo Sanatorium (T.B.)	180	179
Del Valle Farm (T.B.)	48	48
Livermore Sanitarium (N.& M.).	85	75
Lodi, 4,850—San Joaquin		
Dr. Buchanan's Sanitarium	12	5
Mason Hospital	16	8
Loma Linda, —— —San Bernardino		
Loma Linda Sanit. and Hosp.★.	155	123
Long Beach, 91,182—Los Angeles		
Long Beach Community Hosp.	107	40
Seaside Hospital ★	150	135
St. Mary's Long Beach Hospital.	60	40
Los Angeles, 576,673—Los Angeles		
Angelus Hospital Association	130	110
Arroyo-Croft Sanitarium	30	6
Banksia Place Sanit. (N.& M.).	15	13
The Barlow Sanatorium (T.B.).	85	79
Belvedere Sanitarium (T.B.)	24	16
Bonnie Brae Sanit. and Hosp.	25	10
California Lutheran Hospital ★.	195	173
Chase Diet Sanitarium	22	17
Children's Hospital	100	85
Clara Barton Hospital	94	78
Dunbar Hospital	20	4
Eye and Ear Hospital of Los Angeles	12	6
Fernwold Sanitarium (N.& M.).	20	12
Golden State Hospital	130	102
Harriet G. Cunningham's Hosp.	31	26
Hollywood Hospital ★	139	88
Hospital of the Good Samaritan, Inc.	140	130
Hyde Park Hospital	15	10
Kaspare Cohn Hospital	55	51
Lincoln Hospital	35	30
Los Angeles General Hospital ★	1,249	1,098
Los Angeles Receiving Hospital.	17	5
Los Angeles Sanitarium	20	12
Los Angeles Smallpox Quarantine Hospital	80	26
Maternity Cottage	30	18
Methodist Hospital of Southern California ★	225	100
New French Hospital	45	40
Orthopaedic Hospital	60	57

ARKANSAS



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Arkansas, 70; for community use, 52; population per hospital bed, 696; percentage of beds occupied, 51; percentage of counties without hospitals, 62.6.

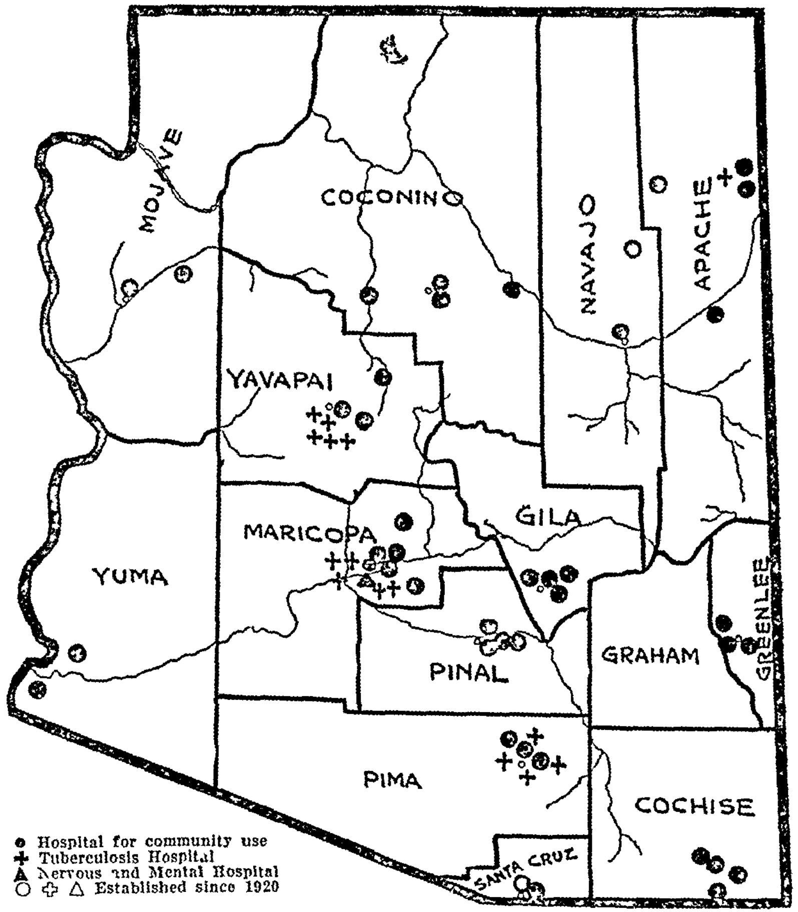
	Total Beds	Av Beds in Use
Tuskegee, 2,475—Macon		
Macon Co Hospital, Inc	15	5
Tuskegee Institute, 118—Macon		
John A Andrew Mem Hosp ★ (col)	64	35
Two General Hospitals of less than 10 beds	15	8
Total for community use, 79	3,814	2,083

In Alabama the following thirty-eight counties have no hospitals for community use Baldwin, Bibb, Blount, Bullock, Chambers, Cherokee, Chilton, Choctaw, Clarke, Clay, Cleburne, Coffee, Conecuh, Coosa, Crenshaw, Cullman, Dale, DeKalb, Fayette, Franklin, Geneva, Greene, Hale, Henry, Lamar, Lawrence, Limestone, Lowndes, Marion, Marshall, Monroe, Perry, Pickens Russell, Shelby, Sumter, Washington, Wilcox

ARIZONA

	Total Beds	Av Beds in Use
Ajo 50—Pima		
New Cornelia Copper Co Hosp..	35	30
Bisbee, 9,205—Cochise		
Calumet and Arizona Hospital .	50	30
Copper Queen Hospital.. . .	50	25
Clifton, 4,164—Greenlee		
Phelps Dodge Hospital	10	1
Douglas, 9,916—Cochise		
Calumet Hospital . ..	25	12
Cochise County Hospital .	40	30
Flagstaff, 3,186—Coconino		
Coconino County Hospital . ..	24	12
Mercy Hospital	10	4
Florence, 161—Pinal		
Pinal County Hospital . .	20	10
Ft Defiance, 150—Apache		
Hospital of the Good Shepherd	35	25
Ganado, 100—Apache		
Ganado Mission Presbyterian Hospital . . .	24	15
Globe, 7,044—Gila		
Gila County Hospital	52	32
Old Dominion Hospital	15	10
Hayden, 582—Gila		
Hayden Hospital	12	6
Indian Wells, 26—Navajo		
Good Samaritan Hospital	14	4
Jerome, 2,393—Yavapai		
United Verde Hospital.........	50	30
Kingman, 855—Mohave		
Mohave County Hospital.......	30	12
Mesa, 3,036—Maricopa		
South Side District Hospital ..	36	12
Miami, 6,689—Gila		
Miami-Inspiration Hospital	40	27
Morenci, 5,100—Greenlee		
Phelps Dodge Hospital	18	6
Nogales, 5,199—Santa Cruz		
Dr Chenoweth's Private Hosp .	10	7
St Joseph's Hospital	18	4
Phoenix, 38,669—Maricopa		
Arizona Deaconess Hospital	97	50
Booker T Washington Memorial Hospital and Sanatorium	20	8
Helen Lee Sanatorium (T B) .	14	10
Maricopa Co Tuberculosis Hosp.	38	25
Park View Sanatorium (T B) .	28	20
The Phoenix Sanatorium (T B)	80	40
Rest Haven Sanit (N & M) .	17	12
St Joseph's Hospital . . .	120	78
St Luke's Hospital (T B). . .	65	45
Valley View Sanatorium .	14	8
Williams Mesquite Camp (T B)	35	12
Prescott, 4,380—Yavapai		
Mercy Hospital	36	16
Pamsetgaaf Sanatorium (T B)	26	18
Prescott Pines Sanat (T B) .	25	6
St Luke's in the Mountains (T B) . . .	48	45
Yavapai County Hospital ..	50	30
Ray, 25—Pinal		
Ray Hospital	16	7
Tucson, 26,733—Pima		
Hillcrest Sanatorium (T B) . .	22	15
Pima County Hospital	28	24
St Luke's in the-Desert Sanitarium (T B) . ..	31	30
St Mary's Hospital and Sanat .	84	65
Tucson General Hospital ..	60	38
Tucson Tubercular Charity Hospital	20	12
Williams, 1,350—Coconino		
Williams Hospital	12	2
Yuma, 4,237—Yuma		
Yuma General Hospital	20	12
Total for community use, 47	1,624	972

ARIZONA



Total hospitals in Arizona, 83, for community use, 47; population per hospital bed, 251, percentage of beds occupied, 59, percentage of counties without hospitals, 7 2

In Arizona the following county has no hospital for community use Graham

ARKANSAS

	Total Beds	Av Beds in Use
Arkadelphia, 3,311—Clark		
Moore & Wallis Sanitarium ...	10	4
The Townsend Sanitarium......	10	3
Batesville, 4,299—Independence		
Dorr, Gray, Johnston & Craig Sanitarium	15	5
Blytheville, 6,447—Mississippi		
Blytheville General Hospital ...	33	21
Camden, 3,238—Ouachita		
Camden Hospital	20	7
Charleston, 734—Franklin		
Bollinger Hospital	10	5
Conway, 4,564—Faulkner		
Faulkner County Hospital	30	15
Crossett, 2,038—Ashley		
Crossett Hospital	26	18
DeQueen, 2,517—Sevier		
DeQueen Hospital	12	6
Eldorado, 3,887—Union		
El Dorado General Hospital ...	30	20
Warner-Brown Hospital	85	56
Eureka Springs, 3,228—Carroll		
Huntington Hospital	10	4
Fayetteville, 5,362—Washington		
Fayetteville City Hospital	50	30
Ft Smith, 31,643—Sebastian		
Sebastian County Hospital	75	75
Sparks' Memorial Hospital ...	100	50
St Edward's Mercy Hospital .	75	25
St John's Hospital......	53	26
Helena, 9,112—Phillips		
Helena Hospital	35	18
Hope, 3,639—Hempstead		
Josephine Hospital	20	5
Julia Chester Hospital	12	6
Hot Springs National Park, 11,695—Garland		
Leo N Levi Memorial Hospital.	60	40
Modern Hospital	20	10
New Park Sanitarium	16	8
Ozark Sanatorium	60	35
St Joseph's Infirmary	88	58
Jonesboro, 9,384—Craighead		
St Bernard's Hospital	102	38
Lake Village, 1,449—Chicot		
South East Arkansas Hospital .	30	12
Little Rock, 74,216—Pulaski		
Baptist State Hospital	325	90
J E Bush Memorial Hospital .	48	23
Little Rock General Hospital .	100	62
Missouri Pacific Hospital	135	52
Pettus Surgical Infirmary . ..	10	4
Pulaski County Hospital .. .	200	180
Royal Circle Hosp (Colored) .	50	12
St. Vincent's Infirmary ★. . .	135	95
Trinity Hospital . . .	44	18
United Friends Hosp (Colored).	25	15
Morrilton, 3,010—Conway		
St Anthony's Hospital..... ...	12	6
Newport, 3 771—Jackson		
Elton Matthews Sanitarium	12	5
Paragould, 6 306—Greene		
Dickson Memorial Sanitarium .	22	13
Paris, 1,740—Logan		
Paris Hospital	35	13
Pine Bluff, 21,611—Jefferson		
Davis Baptist Hospital	55	24
Prescott, 2,691—Nevada		
Cora Donnell Hospital	30	21
Ratcliff, 257—Logan		
Ratcliff Clinic and Hospital....	20	4
Rogers, 3,318—Benton		
Dr Love's Sanitarium	10	3
Russellville, 4,505—Pope		
City Hospital	12	3
St Mary's Hospital . . .	35	18
Siloam Springs, 2,569—Benton		
City Hospital	12	4
Siloam Springs Hospital	12	12
Texarkana, 8,257—Miller		
Michael Meagher Memorial Hospital	75	45
St Louis Southwestern Hospital	152	52
One General Hospital of less than 10 beds	7	3
Total for community use, 52	2 660	1,377

In Arkansas the following forty-seven counties have no hospitals for community use Arkansas, Baxter, Boone Bradley, Calhoun, Clay, Cleburne, Cleveland, Columbia, Conway, Crittenden, Cross Dallas, Desha Fulton, Grant, Hot Spring, Howard Izard, Johnson, Lafayette, Lawrence, Lee, Lincoln, Little River, Lonoke, Madison, Marion, Monroe Montgomery, Newton Perry, Pike Poinsett Polk Prairie Randolph, St Francis, Saline, Scott, Searcy, Sharp, Stone Van Buren, White Woodruff, Yell

CALIFORNIA

	Total Beds	Av. Beds in Use
Ahwahnee, —— —Madera		
Ahwahnee Tri-Co. Tuberculosis Sanatorium	108	76
Alameda, 31,876—Alameda		
Alameda Sanit. on South Shore.	90	32
Alhambra, 9,096—Los Angeles		
Alhambra Hospital	50	30
Alpine, —— —San Diego		
The Alpine Sanat., Inc. (T.B.).	60	34
Alta, 113—Placer		
Alta Sanatorium (T.B.)	25	12
Altadena, —— —Los Angeles		
Echo Mountain Rest Home (T.B.)	12	8
Alturas, 979—Modoc		
Modoc County Hospital	10	5
Anaheim, 5,526—Orange		
Anaheim Sanitarium, Inc.	40	20
Arcata, 1,121—Humboldt		
Trinity Hospital	20	18
Arlington, 1,550—Riverside		
Riverside County Hospital	135	110
Artesia, 500—Los Angeles		
Artesia Hospital	20	10
Atascadero, —— —San Luis Obispo		
Wm. H. Lewis Memorial Hosp.	20	6
Auburn, 2,376—Placer		
Macbeth Sanitarium	13	10
Placer County Hospital	120	85
Avalon, 850—Los Angeles		
Catalina Hospital	12	4
Bakersfield, 23,487—Kern		
Kern General Hospital	130	115
Mercy Hospital	60	37
R. B. Rees Hospital	12	12
Victory Hospital	21	9
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Banning Hosp. & Sanat. (T.B.)	30	22
Mary Henderson Sanit. (T.B.).	26	24
Southern Sierras Sanat. (T.B.).	30	15
Belmont, 363—San Mateo		
Alexander Sanit., Inc. (N.& M.)	35	25
California Sanatorium (T.B.).	120	100
Charles S. Howard Foundation (T.B.)	20	14
Nerve Rest Sanit. (N.& M.)	25	15
Beresford (Belmont, P.O.), —— —San Mateo		
Community Hosp. of San Mateo County	66	36
Berkeley, 66,209—Alameda		
Albert H. Rowe Sanitarium	10	3
Alta Bates Sanatorium	40	32
Berkeley General Hospital	100	75
El Reposo Sanit. and Hospital.	45	35
Brawley, 5,392—Imperial		
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Burbank, 400—Los Angeles		
Burbank Hospital	50	14
Byron Hot Springs, 30—Contra Costa		
Byron Hot Springs Sanitarium.	20	10
Chico, 8,872—Butte		
Chico Sanatorium	34	22
Enloe Hospital	35	24
Sisters' Hospital	30	14
Chula Vista, 1,718—San Diego		
McNabb Hosp. and Sanitarium.	30	16
Cloverdale, 823—Sonoma		
Cloverdale Hospital	20	5
Clovis, 1,157—Fresno		
McMurtry Sanitarium	11	5
Coalinga, 2,934—Fresno		
San Joaquin Hospital	15	8
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The Brown Convalescent Home (T.B.)	17	12
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Colusa Hospital	12	6
Compton, —— —Los Angeles		
Compton Sanit., Inc. (N.& M.).	165	89
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Corona Hospital	12	6
Covina, 1,652—Los Angeles		
Covina Hospital	22	11
Culver City, —— —Los Angeles		
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Tapley Sanitarium (N.& M.)	15	15
Dinuba, 3,400—Tulare		
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Dorris, 214—Siskiyou		
Dorris Hospital	20	8
Downey, 1,500—Los Angeles		
Downey Hospital	12	6
Downieville, 500—Sierra		
Sierra County Hospital	20	8
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Dunsmuir Hosp. and Sanitarium.	20	10
El Centro, 5,464—Imperial		
El Centro Hospital, Inc.	36	20
Eureka, 13,533—Humboldt		
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Humboldt Co. School for the Tuberculous	53	49
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St. Joseph's Hospital	60	35
Union Labor Hospital	40	21
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Ferndale General Hospital	13	6
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Fullerton Hospital	20	12
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Glendale Research Hospital	40	19
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Hetch Hetchy Hospital	35	5
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Hayward General Hospital	15	10
Healdsburg, 2,011—Sonoma		
Healdsburg General Hospital	12	4
Hermosa Beach, 679—Los Angeles		
Hermosa-Redondo Hospital	25	13
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Hobart Estate Company Hosp.	14	3
Hollister, 2,308—San Benito		
Hazel Hawkins Memorial Hosp.	15	5
San Benito County Hospital	25	12
Hollywood, —— —Los Angeles		
Benedict Maternity Hospital	22	10
Huntington Park, 4,513—Los Angeles		
Mission Hospital	30	15
Inglewood, 1,536—Los Angeles		
Inglewood Hospital	14	8
Keene, —— —Kern		
Stoney Brook Retreat (T.B.)	50	43
La Jolla, —— —San Diego		
Scripps Memorial Hospital	50	14
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LaVina Sanatorium (T.B.)	100	56
Lincoln, 1,402—Placer		
Joslin's Sanatorium	15	10
Livermore, 1,916—Alameda		
Arroyo Sanatorium (T.B.)	180	179
Del Valle Farm (T.B.)	48	48
Livermore Sanitarium (N.& M.).	85	75
Lodi, 4,850—San Joaquin		
Dr. Buchanan's Sanitarium	12	5
Mason Hospital	16	8
Loma Linda, —— —San Bernardino		
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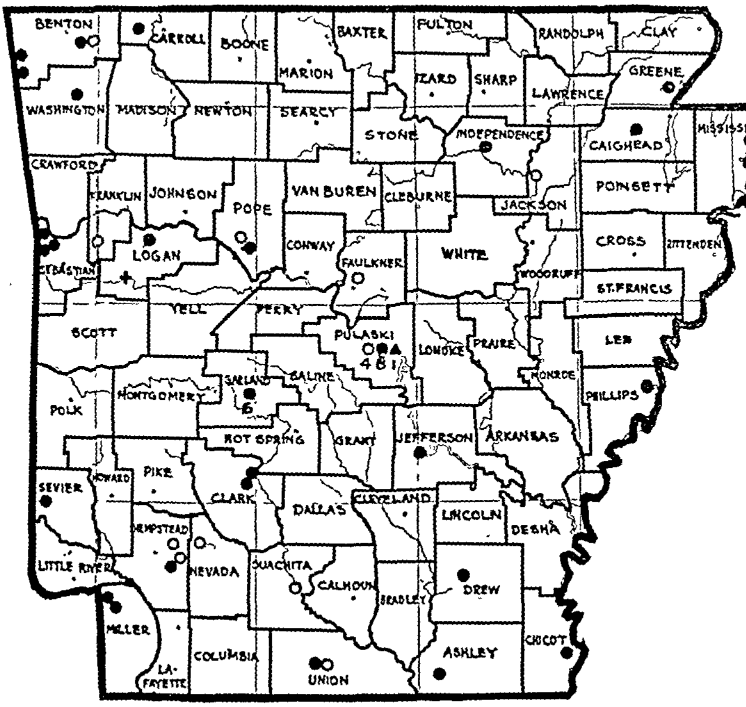
Orthopaedic Hospital	60	57

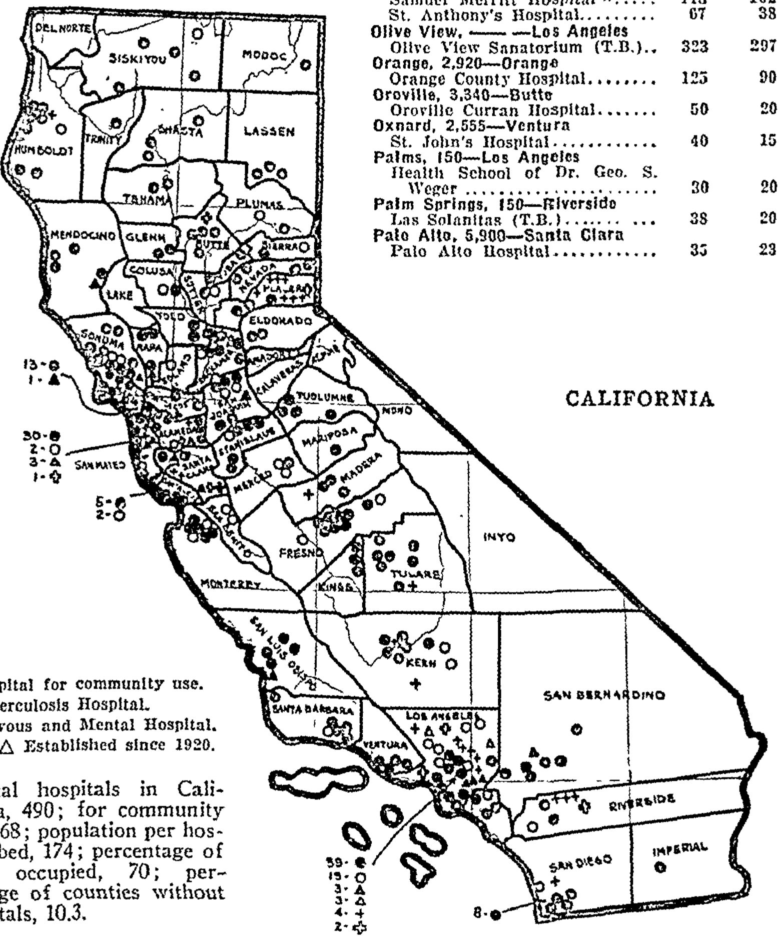
ARKANSAS



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Arkansas, 70; for community use, 52; population per hospital bed, 696; percentage of beds occupied, 51; percentage of counties without hospitals, 62.6.

	Total Beds	Av. Beds in Use
Pacific Hospital	79	77
Resthaven (N.& M.)	32	30
Rice's Maternity Home	14	12
Roosevelt Hospital	77	53
Rosena Rest Retreat (N.& M.)	15	12
Santa Fe Coast Lines Hospital	131	73
St. Vincent's Hospital ★	110	72
Talbot Sanitarium (N.& M.)	13	12
Terry Sanitarium	14	5
White Memorial Hospital ★	108	94
Wilshire Rest Home	18	12
Women's Alliance Maternity Cottage	28	20
Los Gatos, —— —Santa Clara		
Oak's Sanitarium (T.B.)	60	52
Madera, 3,444—Madera		
Madera County Hospital	50	30
Madera Sanitarium	18	12
Manor, —— —Marin		
Arequipa Sanatorium (T.B.)	42	40
Martinez, 2,115—Contra Costa		
Contra Costa County Hospital	125	82
Marysville, 5,461—Yuba		
Rideout Memorial Hospital	35	20
Yuba County Hospital	78	43
McCloud, 200—Siskiyou		
McCloud Hospital	30	16
Merced, 3,974—Merced		
Merced County Hospital	100	80
Mercy Hospital	25	16
Merced Falls, 50—Merced		
Jos. Banos Hospital	11	5
Yosemite Hospital	14	5
Modesto, 9,241—Stanislaus		
McPheeter's Hospital	18	12
Robertson Hospital	45	25
St. Mary's Hospital	21	10
Stanislaus County Hospital	100	64
Monrovia, 5,480—Los Angeles		
The Monrovia Clinic (T.B.)	60	40
The Monrovia Sanatorium (T.B.)	15	7
Our Lady of Lourdes Rest Home (T.B.)	14	8
Pottenger Sanat. for Diseases of the Lungs and Throat (T.B.)	134	120
Monterey, 5,479—Monterey		
El Adobe Hospital	22	15
Monterey Peninsula Hospital	15	10
Montrose, 45—Los Angeles		
Dr. Utley's Hospital-Sanitarium	25	18
Mountain View, 1,161—Santa Clara		
Mountain View Hosp. and Sanit.	15	3
Napa, 6,757—Napa		
Francis Hospital & Sanatorium	20	15
Napa General Hospital	12	6
National City, 1,733—San Diego		
Elwyn Sanitarium	12	6
Paradise Valley Sanitarium and Hospital	135	66
Nevada City, 1,782—Nevada		
Nevada County Hospital	65	50
Newman, 1,251—Stanislaus		
Newman Hospital	10	5
Oakdale, 1,745—Stanislaus		
Oakdale Hospital	14	4
Oakland, 253,700—Alameda		
Alameda Co. Receiving Hosp.	11	5
Anderson's Sanat. (N.& M.)	20	18
Baby Hospital Association	30	30
East Bay Hospital	35	15
Fabiola Hospital Association ★	150	140
Inez Sanitarium	10	4
Oakland Central Hospital	60	45
Oakland Maternity Hospital	14	13
Providence Hospital ★	100	95
Samuel Merritt Hospital ★	118	102
St. Anthony's Hospital	67	38
Olive View, —— —Los Angeles		
Olive View Sanatorium (T.B.)	323	297
Orange, 2,920—Orange		
Orange County Hospital	125	90
Oroville, 3,340—Butte		
Oroville Curran Hospital	50	20
Oxnard, 2,555—Ventura		
St. John's Hospital	40	15
Palms, 150—Los Angeles		
Health School of Dr. Geo. S. Weger	30	20
Palm Springs, 150—Riverside		
Las Solanitas (T.B.)	38	20
Palo Alto, 5,900—Santa Clara		
Palo Alto Hospital	35	23
Paradise, 90—Butte		
Paradise Sanatorium (T.B.)	22	22
Pasadena, 56,732—Los Angeles		
El Nido Pasadena Preventorium	53	19
Las Encinas	63	44
Pasadena Hospital Association	200	128
Petaluma, 6,226—Sonoma		
Petaluma General Hospital	26	12
Placerville, 1,914—El Dorado		
El Dorado County Hospital	70	35
Placerville Sanatorium	20	10
Pomona, 15,372—Los Angeles		
Pomona Valley Hospital	40	25
Porterville, 4,097—Tulare		
Porterville Hospital and Maternity Home	10	4
Portola, 100—Plumas		
Western Pacific Railway Hosp.	20	14
Quincy, 519—Plumas		
Plumas Industrial Hospital	10	5
Randsburg, 1,000—Kern		
Rand District Hospital	10	5
Red Bluff, 3,530—Tehama		
St. Elizabeth's Mercy Hospital	20	10
Tehama County Hospital	65	35
Redding, 2,912—Shasta		
Shasta County Hospital	25	9
St. Caroline Sanitarium	24	14
Redlands, 9,571—San Bernardino		
Redlands Heights Sanatorium	20	12
Redwood City, 2,442—San Mateo		
Canyon Sanatorium (T.B.)	70	52
Drexler Hall	13	12
Richmond, 22,530—Contra Costa		
Cottage Hospital	20	12
Grand Vista Sanat. (N.& M.)	20	10
Richmond Maternity Hospital	11	5
Ripon, 200—San Joaquin		
Ripon Hospital	17	10
Rosemead (El Monte P.O.), —— —Los Angeles		
Alhambra Sanat., Inc. (N.& M.)	18	7
Ross, 556—Marin		
Ross General Hospital	50	18
Sacramento, 72,260—Sacramento		
Igo-Flitcroft Hospital	14	10
Krull Hospital	30	20
Mater Misericordiae Hospital	150	85
Sacramento Hospital	500	400
Sutter Hospital	174	93
Salinas, 3,736—Monterey		
Jim Bardin Hospital	30	26
Monterey County Hospital	25	14
Salinas Valley Hospital	14	10
San Bernardino, 22,823—San Bernardino		
Ramona Hospital	50	28
San Bernardino County Hosp.★	212	165
Sequoia Hospital	15	10
San Diego, 106,047—San Diego		
Burlingame Hospital	18	6
Glenwood Maternity Sanitarium	14	8
Mercy Hospital	175	125
Mission Valley Hospital	36	15
San Diego Co. General Hosp.★	275	263
San Diego Municipal Isolation Hospital	60	1
Sunshine General Hospital	14	8
San Fernando, 1,000—Los Angeles		
San Fernando Hospital	12	7
San Francisco, 557,530—San Francisco		
Chinese Hospital	54	20
Dante Sanatorium	56	40
Franklin Hospital ★	210	157
French Hospital ★	220	160
Hahnemann Hospital of the University of California ★	112	75
Hospital for Children ★	245	175
Lane Hospital ★	181	130
Mary's Help Hospital ★	130	120
Molony Urological Hospital	10	6
Mt. Zion Hospital ★	150	104
Park Sanitarium Association (N.& M.)	33	20
Park West Hydro and Sanatorium (N.& M.)	20	20
Physicians and Surgeons Institute of Physiotherapy	25	15
San Francisco Emergency Hosp.	90	50
San Francisco Hospital ★	1,072	667
San Francisco Polyclinic and Post Graduate College	12	9
Shriners' Hospital for Crippled Children	50	47
Southern Pacific General Hosp.★	300	265
St. Elizabeth's Infant Hospital	64	50
St. Francis Hospital †	325	280
St. Joseph's Hospital ★	200	165
St. Luke's Hospital ★	188	140
St. Mary's Hospital ★	200	180
Stanford University Hospital ★	255	194
Union Plant Hospital	21	9
University of California Hosp.★	255	191
Wakefield Hospital	40	20
Sanitarium, 25—Napa		
St. Helena Sanit. and Hospital	135	81
San Jose, 43,551—Santa Clara		
Alum Rock Sanatorium (T.B.)	29	18
O'Connor Sanitarium	80	40
San Jose Hospital	96	63
Santa Clara County Hospital	288	262
Sunnyholme Preventorium	17	16
San Leandro, 5,903—Alameda		
Alameda County Hospital and Infirmary ★	192	150
San Luis Obispo, 5,895—San Luis Obispo		
Pacific Hospital	16	14
San Luis Obispo County Hosp.	60	50
San Luis Sanitarium	20	15
San Mateo, 5,779—San Mateo		
Mills Memorial Hospital	60	36
San Mateo Preventorium	12	12
San Pedro, 3,500—Los Angeles		
San Pedro General Hospital	83	30
San Rafael, 5,512—Marin		
Cal-Pino Sanitarium	10	5
Helios Sun Sanitarium	16	8
Marin Co. Tuberculosis Hosp.	10	6
San Rafael Cottage Hospital	30	15
Santa Ana, 19,481—Orange		
Santa Ana Valley Hospital	41	30
Santa Barbara, 24,038—Santa Barbara		
Santa Barbara Cottage Hosp.★	125	73
Santa Barbara General Hospital	123	88
St. Francis Hospital ★	68 (a)	35



CALIFORNIA

● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✧ △ Established since 1920.

Total hospitals in California, 490; for community use, 368; population per hospital bed, 174; percentage of beds occupied, 70; percentage of counties without hospitals, 10.3.

	Total Beds	Av. Beds in Use
Santa Cruz, 10,917—Santa Cruz		
Hanly Hospital	36	25
Mission Hospital and Sanitarium	24	12
Santa Cruz County Hospital	12	6
Seabright Sanitarium	12	8
Santa Maria, 3,943—Santa Barbara		
Lucas Sanitarium	12	5
Santa Monica, 19,445—Los Angeles		
Loamshier Hospital	35	18
Santa Monica Sanitarium	30	20
St. Catherine's Hospital and Annex	75	15
Santa Paula, 2,216—Ventura		
Santa Paula Cottage Hospital	10	5
Santa Rosa, 7,817—Sonoma		
General Hospital	40	24
Mary Jesse Hospital	19	9
Sonoma County Hospital	60	50
Scotia, 1,500—Humboldt		
Scotia Hospital Association, Inc.	42	20
Selma, 3,158—Fresno		
Selma Sanitarium, Inc.	14	6
Sierra Madre, 2,026—Los Angeles		
Sierra Madre Hospital	14	6
Sonora, 2,029—Tuolumne		
Bromley Sanatorium	15	9
Sierra Hospital	15	5
Tuolumne County Hospital	54	25
South Gate, 57—Los Angeles		
Suburban Hospital	52	15
South Pasadena, 7,648—Los Angeles		
Pasadena Sanitarium (N.& M.)	100	100
South San Francisco, 1,989—San Mateo		
South San Francisco Hospital	36	14
Springville, —— —Tulare		
Tulare Kings County Joint Tubercular Hospital	93	70
St. Helena, 1,603—Napa		
St. Gothard's General Hospital	27	8
Standard, 813—Tuolumne		
Standard Hospital	29	New
Stanford University, 700—Santa Clara		
Stanford Convalescent Home	40	36
Stockton, 47,287—San Joaquin		
Clark's Sanatorium (N.& M.)	75	60
Dameron Hospital	50	44
St. Joseph's Hospital	85	75
Sugar Pine, 60—Madera		
Sugar Pine Hospital	14	3
Suisun City, 769—Solano		
Solano County Hospital	72	48
Susanville, 918—Lassen		
Lassen County Hospital	18	10
Riverside Hospital	50	30
Taft, 3,317—Kern		
West Side Hospital	40	20
Torrance, —— —Los Angeles		
Jared Sidney Torrance Memorial Hospital	35	20
Tulare, 3,539—Tulare		
Tulare Hospital	10	6
Turlock, 1,573—Stanislaus		
Emanuel Hospital	40	15
Lillian Collins Hospital	16	7
Ukiah, 2,136—Mendocino		
Langland Hospital	15	5
Mendocino County Hospital	75	65
Upland, 2,902—San Bernardino		
San Antonio Community Hosp.	40	14
Ventura, 2,945—Ventura		
Big Sisters Hospital	30	15
Ventura County Hospital	72	52
Vineburg, —— —Sonoma		
Burndale Sanitarium	10	5
Visalia, 5,753—Tulare		
Kaweah Hospital, Inc.	30	13
Tulare County Hospital	35	30
Watsonville, 4,446—Santa Cruz		
Watsonville Hospital	22	16
Weaverville, 1,100—Trinity		
Trinity County Hospital	30	15
Weed, 400—Siskiyou		
Weed Hospital	21	12
Weimar, —— —Placer		
Weimar Joint Sanatorium (T.B.)	284	215
West Los Angeles, —— —Los Angeles		
Brentwood Court	15	10
Westwood, —— —Lassen		
Westwood Hospital	100	65
Willows, 1,139—Glenn		
Glen County Hospital	31	16
The Willows Sanatorium	12	5
Woodland, 3,187—Yolo		
Woodland Sanitarium	54	46
Yolo County Hospital	60	35
Yreka, 1,134—Siskiyou		
Siskiyou County Hospital	40	25
Yuba City, 1,160—Sutter		
Emergency Hospital	10	7
Sutter County Hospital	48	25
Twenty-one General Hospitals of less than 10 beds	153	83
Total for community use, 368	22,994	16,218

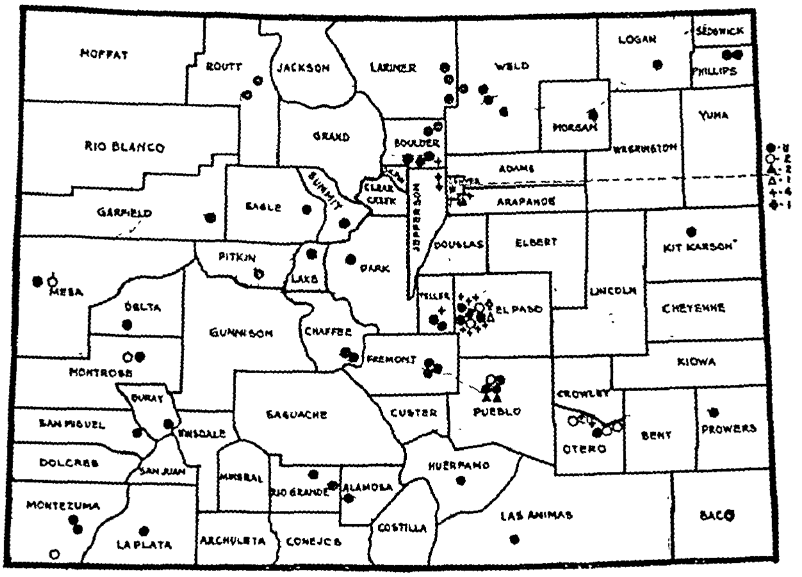
In California the following six counties have no hospitals for community use: Alpine, Calaveras, Del Norte, Inyo, Lake, Mono.

COLORADO

	Total Beds	Av. Beds in Use
Alamosa, 317—Alamosa		
Alamosa Hospital	25	15
Aspen, 1,265—Pitkin		
Citizens Hospital	15	15
Boulder, 11,837—Boulder		
Boulder-Colorado Sanitarium	100	41
Boulder County Hospital (T.B.)	25	15
Community Hospital	75	30
Mesa Vista Sanatorium (T.B.)	26	16
Brush, 2,103—Morgan		
Eben-Ezer Mercy Inst.	18	8
Burlington, 368—Kit Carson		
Burlington Hospital	12	3
Canon City, 4,551—Fremont		
Dr. Graves' Private Hospital	35	14
The Holmes Hospital	25	12
Colorado Springs, 30,105—El Paso		
Beth-El General Hospital	104	74
Bonnie View Sanatorium (T.B.)	25	18
Colorado Springs Psychopathic Hospital	40	30
Cragmor Sanatorium (T.B.)	105	93
Crestone Heights Sanitarium	21	7
Glockner Sanatorium and Hosp.	210	140
Idlewold Sanatorium (T.B.)	12	5
Observation Hospital	25	15
St. Francis Hospital ★	150	80
Star Ranch In-the-Pines Sanat.	30	25
Sunnyrest Sanatorium (T.B.)	50	45

	Total Beds	Av. Beds in Use
Ft. Collins, 8,755—Larimer		
Fort Collins Hospital	23	19
Larimer County Hospital	27	12
Glenwood Springs, 2,073—Garfield		
Glenwood Springs Sanitarium	25	14
Grand Junction, 8,665—Mesa		
St. Mary's Hospital	65	50
Greeley, 12,531—Weld		
Greeley Hospital	60	25
Weld County Hospital	62	40
Haxtun, 1,118—Phillips		
Haxtun Sanatorium	10	5
Holyoke, 1,205—Phillips		
Holyoke Hospital	10	5
La Junta, 4,154—Otero		
A. T. & S. F. R. R. Hospital	36	23
City Hospital	30	17
The Mennonite Sanit. (T.B.)	40	25
Lamar, 2,512—Prowers		
Lamar Hospital	13	8
Leadville, 4,959—Lake		
St. Vincent's Hospital	27	8
Littleton, 1,636—Arapahoe		
Physicians' and Surgeons' Hosp.	25	18
Longmont, 4,256—Boulder		
Longmont Hospital Association	50	18
St. Vrain Hospital	10	6
Loveland, 3,651—Larimer		
The Loveland Hospital	20	10

COLORADO



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Colorado, 124; for community use, 89; population per hospital bed, 209; percentage of beds occupied, 63; percentage of counties without hospitals, 46.0.

	Total Beds	Av. Beds in Use
Cortez, 565—Montezuma		
The Johnson Hospital	10	7
Cripple Creek, 2,325—Teller		
Cripple Creek Hospital	25	14
Teller County Hospital	28	15
Del Norte, 840—Rio Grande		
St. Joseph's Sanitarium	14	7
Delta, 2,623—Delta		
Western Slope Memorial Hosp.	13	7
Denver, 280,911—Denver		
Agnes Memorial Sanat. (T.B.)	157	143
Bethesda Sanatorium (T.B.)	60	40
Beth Israel Hospital	50	23
Children's Hospital ★	117	78
Church Home for Convalescents	25	15
Colorado General Hospital ★	148	76
Denver General Hospital ★	325	288
The Good Samaritan Sanitarium	25	20
Mercy Hospital ★	160	140
Mt. Airy Hospital (N.& M.)	40	30
Park Avenue Hospital	50	30
St. Anthony's Hospital ★	200	160
St. Joseph's Hospital ★	300	143
St. Luke's Hospital ★	200	180
Steele Memorial Hospital	80	52
Sunnyrest Sanitarium (T.B.)	32	20
U. S. Grant Hospital	25	15
Durango, 4,116—La Plata		
Mercy Hospital	30	25
Englewood, 4,356—Arapahoe		
Molkery Sanitarium (N.& M.)	15	8
Fruita, 1,193—Mesa		
Fruita Community Hospital	18	10

	Total Beds	Av. Beds in Use
Manitou, 1,099—El Paso		
Montcalm Sanatorium (T.B.)	50	40
Montrose, 3,581—Montrose		
Montrose Hospital	12	7
St. Luke's Hospital	15	2
Ouray, 1,165—Ouray		
The Bates Hospital	25	8
Cougar Sanatorium	10	4
Pueblo, 43,787—Pueblo		
Minnequa Hospital	225	128
Parkview Hospital	40	31
St. Mary Hospital	150	90
Woodcroft Hospital (N.& M.)	80	75
Rocky Ford, 3,746—Otero		
Physicians' Hospital	10	6
Salida, 4,689—Chaffee		
Denver and Rio Grande Western Railroad Hospital	50	28
Red Cross Hospital	50	26
Steamboat Springs, 1,249—Routt		
Steamboat Springs Hospital	10	4
Sterling, 6,415—Logan		
Sterling Hospital	25	16
Telluride, 1,618—San Miguel		
Telluride Hospital	32	18
Trinidad, 11,019—Las Animas		
Mt. San Rafael Hospital	75	45
Victor, 1,777—Teller		
District Hospital	18	11
Walsenburg, 2,423—Huerfano		
Lamme Brothers Hospital	20	10
Wheat Ridge, —— —Jefferson		
Evangelical Lutheran Sanitarium (T.B.)	95	64

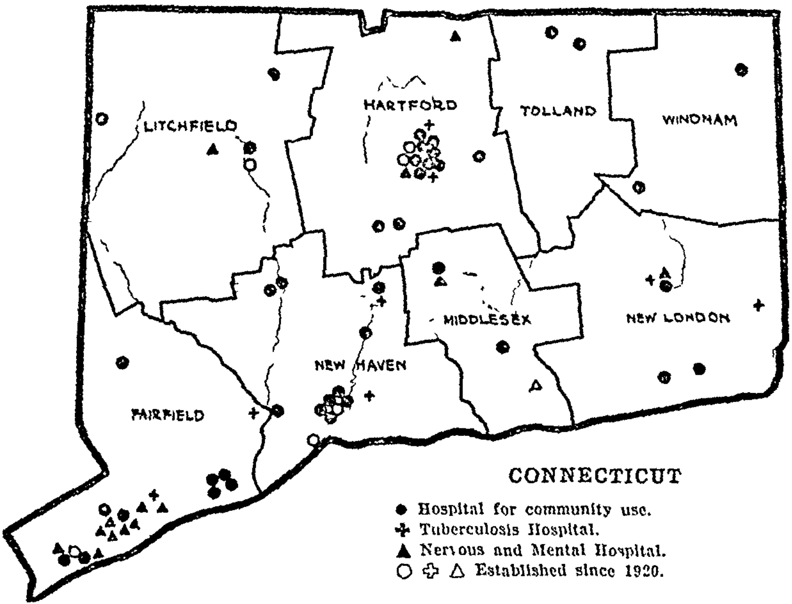
	Total Beds	Av Beds in Use
Windsor, 935—Weld		
The Bartz Memorial Hospital...	10	4
Windsor Hospital	14	4
Five General Hospitals of less than 10 beds................	37	17
Total for community use, 89......	4,861	3,188

In Colorado the following twenty-nine counties have no hospitals for community use: Adams, Archuleta, Baca, Bent, Chaffee, Cheyenne, Clear Creek, Conejos, Costilla, Crowley, Custer, Dolores, Douglas, Elbert, Gilpin, Grand, Gunnison, Hinsdale, Jackson, Kiowa, Lincoln, Mineral, Moffat, Rio Blanco, Saguache, San Juan, Sedgwick, Washington, Yuma.

CONNECTICUT

	Total Beds	Av Beds in Use
Bridgeport, 143,555—Fairfield		
Bridgeport Hospital ★..........	289	185
Englewood Hospital	100	35
Hillside Home and Hospital (N & M)	140	120
Park City Hospital............	45	15
St. Vincent's Hospital ★........	236	170
Bristol, 24,652—Hartford		
Bristol Hospital	83	22
Cromwell, 2,188—Middlesex		
Cromwell Hall, Inc.............	25	24
Danbury, 18,943—Fairfield		
Danbury Hospital	125	62
***Derby*, 12,509—New Haven**		
Griffin Hospital	80	47
Essex, 2,745—Middlesex		
Leonard Home and Sanitarium (N.& M.)	17	10
Granby, 615—Hartford		
Dr. Pendleton's Sanitarium, Inc.	27	15
Greens Farms, 200—*Fairfield*		
Dr. McFarland's Hall (N & M.).	100	100
Greenwich, 25,329—*Fairfield*		
Blythewood Sanit (N.& M.)....	100	65
Bowman's Sanat. (N.& M.).....	15	8
Crest View Sanat. (N & M.)....	25	16
Greenwich Hospital Association.	87	59
Municipal Hospital	*50*	*16*
Guilford, 3,001—New Haven		
The Guilford Sanatorium, Inc..	20	7
Hartford, 160,197—Hartford		
Charter Oak Private Hosp., Inc.	14	9
Hartford Hospital ★............	619	441
Hartford Isolation Hospital	72	30
Hartford Retreat (N.& M.).....	200	162
Mt. Sinai Hospital.............	75	36
Municipal Hospital ★..........	110	76
Niles Street Private Hospital...	20	12
St. Francis Hospital ★..........	500	332
Wildwood Sanatorium (T.B.)...	50	36
***Meriden*, 36,292—New Haven**		
Meriden Hospital	88	55
Middletown, 22,911—Middlesex		
Middlesex Hospital ★...........	126	74
Milford, 13,493—New Haven		
The Milford Hospital, Inc......	40	15
New Britain, 68,039—Hartford		
New Britain General Hospital ★.	190	130
New Canaan, 1,672—Fairfield		
Dr. Brooks' Sanatorium (T.B.).	24	24
New Haven, 178,927—New Haven		
Grace Hospital ★..............	300	212
Hospital of St Raphael ★......	200	170
New Haven Hospital ★ †.......	378	251
Springside Hospital	110	65
Newington, 2,381—Hartford		
Newington Home for Crippled Children	60	47
New London, 29,103—New London		
Home Memorial Hospital.......	50	30
Lawrence and Memorial Hosps..	137	99
Dr. Lena's Hospital............	17	15
New Milford, 4,781—Litchfield		
New Milford Hospital, Inc......	25	10
Norwalk, 29,743—Fairfield		
Norwalk General Hospital......	70	52
Norwich, 23,118—New London		
Wm. W. Backus Hospital.......	90	75
***Putnam*, 7,711—Windham**		
Day-Kimball Hospital	46	34
Rockville, 7,726—Tolland		
Rockville City Hospital........	16	9
Sharon, 1,585—Litchfield		
Sharon Hospital	20	11
South Manchester, 8,036—Hartford		
Manchester Memorial Hospital .	49	41
South *Norwalk, 8,968—Fairfield*		
Dr Wadsworth's *Sanitarium* (N & M)	25	25
Stafford Springs, 3,059—Tolland		
Cyril and Julia C. Johnson Memorial Hospital	35	22
Stamford, 40,737—Fairfield		
Dr Barnes Sanitarium (N.& M.)	85	70
The Orchards (N & M.)........	25	15
The Stamford Hall Co. (N & M)	350	220
The Stamford Hospital.........	146	106
Thompsonville, 5,900—Hartford		
Dr. Vail's Sanatorium (N.& M.)	40	28
Torrington, 24,533—Litchfield		
Charlotte Hungerford Hospital..	60	37
Wallingford, 12,010—*New Haven*		
Gaylord Farm Sanat. (T B)...	125	125
Waterbury, 91,715—New Haven		
St. Mary's Hospital ★..........	220	131
Waterbury Hospital ★..........	185	145
West Haven, 12,400—New Haven		
West Haven Surgical and Maternity Hospital	16	10
Westport, 4,259—Fairfield		
Westport Sanitarium (N & M.).	100	98
Willimantic, 12,952—Windham		
St. Joseph's Hospital...........	45	35
Winsted, 8,248—Litchfield		
Litchfield County Hospital.....	70	39
Woodmont, —— —New Haven		
The Peck Sanatorium..........	12	6
Total for community use, 63.... .	6,799	4,641

All counties in Connecticut have hospitals.



CONNECTICUT

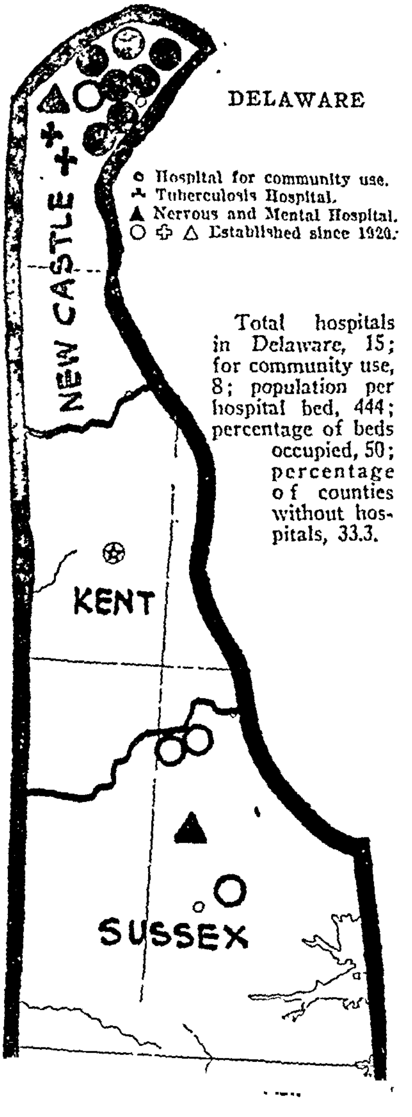
● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Connecticut, 88; for community use, 63; population per hospital bed, 225; percentage of beds occupied, 68; percentage of counties without hospitals, 0.0.

DELAWARE

	Total Beds	Av Beds in Use
Lewes, 2,074—Sussex		
Beebe Hospital of Lewes, Inc...	35	20
Milford, 2,753—Sussex		
Marshall Hospital	30	9
Milford Emergency Hospital....	35	12
Wilmington, 122,049—New Castle		
Delaware Hospital ★	175	100
Homeopathic Hospital Ass'n.....	86	30
Physicians and Surgeons Hosp.	75	38
St. Francis Hospital...........	60	42
St. Michael's Hospital..........	32	17
Total for community use, 8.......	528	268

In Delaware the following county has no hospital for community use: Kent.



DELAWARE

● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Delaware, 15; for community use, 8; population per hospital bed, 444; percentage of beds occupied, 50; percentage of counties without hospitals, 33.3.

DISTRICT OF COLUMBIA

	Total Beds	Av Beds in Use
W[illegible]		
[illegible]	15	9
[illegible]		
[illegible]	160	137
[illegible]	23	20
Children's Hospital............	150	81
Columbia Hospital for Women ★	132	87
Curtis Private Surgical Sanitarium	20	8
Eastern Dispensary & Casualty Hospital.....................	60	38
Episcopal E. E. and T. Hosp...	100	48
Freedmen's Hospital ★........	278	214
Gallinger Municipal Hospital ★.	365	244
Garfield Memorial Hospital ★..	320	107
Georgetown University Hosp.★.	227	119
George Washington University Hospital ★	100	72
Kendall House Sanitarium.....	22	18
National Homeopathic Hospital.	55	10
Providence Hospital ★.........	310	275
Sibley Memorial Hospital ★....	108	103

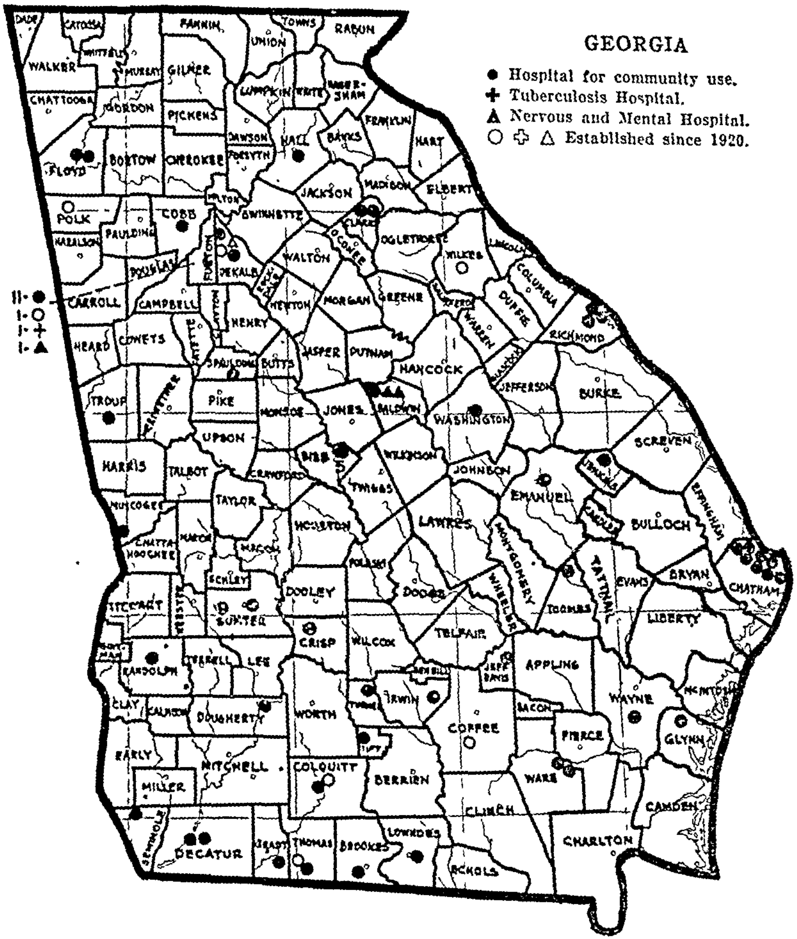
	Total Beds	Av. Beds In Use
Sma[illegible] Hospital	41	16
St.[illegible]	4,418	4,297
Sta[illegible]	25	15
Tub[illegible]	180	126
Wal[illegible]	1,200	965
Was[illegible]	10	5
Washington Sanitarium & Hospital ★	200	117
Washington Sanitarium Mission Hospital	14	1
Total for community use, 25	8,533	7,162

The District of Columbia is considered as being a single district, which has the above-indicated hospitals.

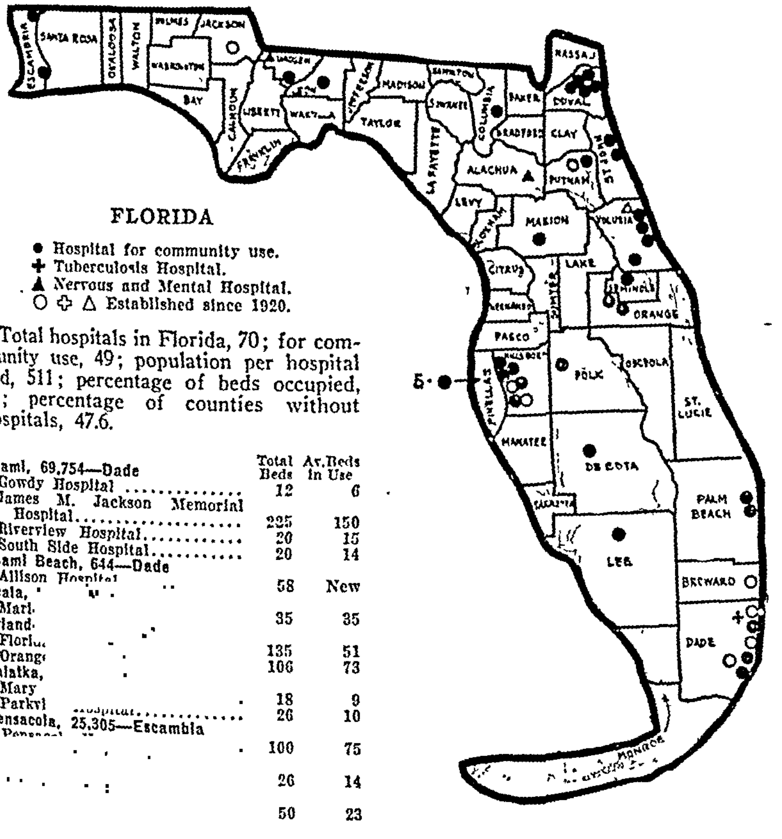
The hospitals in District of Columbia, 40; for community use, 25; population per hospital bed, 58; percentage of beds occupied, 83; percentage of counties without hospitals, 0.0.

FLORIDA

	Total Beds	Av. Beds In Use
Arcadia, 3,479—De Soto		
Arcadia General Hospital	25	15
Century, 1,000—Escambia		
Century Hospital	20	10
Clearwater, 2,427—Pinellas		
Morton F. Plant Endowed Hosp.	31	16
Daytona, 5,445—Volusia		
Dr. Bohannon's Hospital and Sanitarium	25	15
Daytona Private Hospital and Sanitarium	20	10
Daytona Beach, 825—Volusia		
McLeod Hospital	25	17
Deland, 3,324—Volusia		
Deland Memorial Hospital	24	10
Fort Lauderdale, 1,000—Broward		
Edwards Hospital	25	18
Fort Myers, 3,678—Lee		
Robert E. Lee Memorial Hosp.	30	14
Homestead, 1,307—Dade		
Post Graduate Hospital	12	6
Jacksonville, 95,450—Duval		
Brewster Hospital (Colored)	32	27
Duval County Hospital ★	110	102
Riverside Hospital, Inc.	35	33
St. Luke's Hospital ★	100	88
St. Vincent's Hospital	64	55
Lake City, 3,341—Columbia		
Lake Shore Hospital	25	9
Lakeland, 7,062—Polk		
Dr. Causey's Sanitarium	25	9
Morrell Memorial Hospital	45	16
Marianna, 1,915—Jackson		
Baltzell Hospital	15	11



Total hospitals in Georgia, 99; for community use, 74; population per hospital bed, 695; percentage of beds occupied, 59; percentage of counties without hospitals, 68 3.



FLORIDA

- ● Hospital for community use.
- ✚ Tuberculosis Hospital.
- ▲ Nervous and Mental Hospital.
- ○ ✚ △ Established since 1920.

Total hospitals in Florida, 70; for community use, 49; population per hospital bed, 511; percentage of beds occupied, 58; percentage of counties without hospitals, 47.6.

	Total Beds	Av. Beds In Use
Miami, 69,754—Dade		
Gowdy Hospital	12	6
James M. Jackson Memorial Hospital	225	150
Riverview Hospital	20	15
South Side Hospital	20	14
Miami Beach, 644—Dade		
Allison Hospital	58	New
Ocala, [illegible]		
Mari[illegible]	35	35
Orland[illegible]		
Flori[illegible]	135	51
Orang[illegible]	106	73
Palatka, [illegible]		
Mary[illegible]	18	9
Parkvi[illegible] Hospital	26	10
Pensacola, 25,305—Escambia		
[illegible]	100	75
[illegible]	26	14
[illegible]	50	23

	Total Beds	Av Beds in Use
Sanford, 5,588—Seminole		
Fernald-Laughton Memorial Hospital	26	10
Sarasota, 840—Sarasota		
Halton Hospital	10	5
Sarasota Hospital	25	3
St. Augustine, 6,192—St. Johns		
East Coast Hospital	115	60
Flagler Hospital	100	40
St. Petersburg, 26,847—Pinellas		
Faith Hospital, Inc.	40	20
Mercy Hospital (Colored)	13	8
Mound Park Hospital	60	48
Tallahassee, 5,637—Leon		
Johnson's Hospital	25	12
Tampa, 94,743—Hillsborough		
The Bayside Hospital, Inc.	40	35
Centro Espanol Sanatorium	52	10
Clara Frye Hospital (Colored)	75	35
Dr. H. M. Cook's Sanatorium	47	31
Gordon Keller Memorial Hosp.	85	67
Tampa Sanitarium	10	2
West Palm Beach, 8,659—Palm Beach		
The Good Samaritan Hospital	200	98
Pine Ridge Hospital	30	15
Total for community use, 49	2,472	1,455

In Florida the following thirty counties have no hospitals for community use: Baker, Bay, Bradford, Calhoun, Citrus, Clay, Franklin, Hamilton, Hernando, Holmes, Jefferson, Lafayette, Lake, Levy, Liberty, Madison, Manatee, Monroe, Nassau, Okaloosa, Osceola, Pasco, St. Lucie, Santa Rosa, Sumter, Suwannee, Taylor, Wakulla, Walton, Washington.

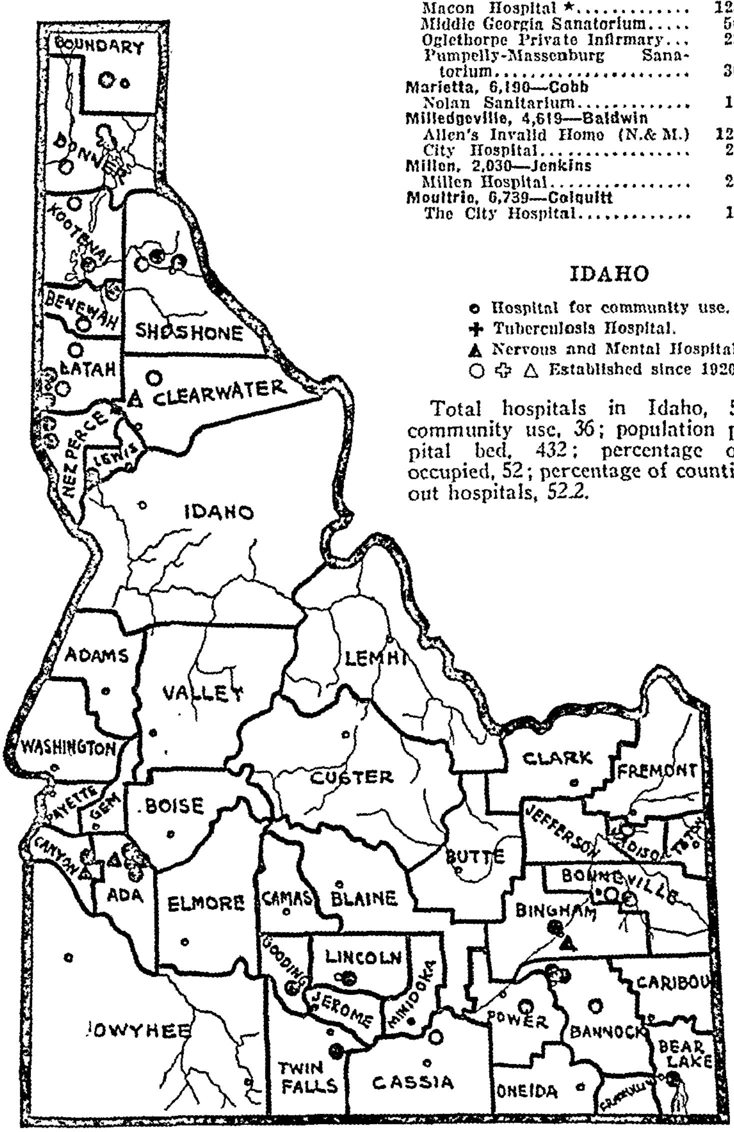
GEORGIA

	Total Beds	Av Beds in Use
Albany, 13,451—Dougherty		
Phoebe Putney Memorial Hosp.	40	20
Americus, 9,010—Sumter		
Americus and Sumter County Hospital	30	18
Athens, 18,787—Clarke		
Athens General Hospital, Inc.	75	30
St. Mary's Hospital	50	23
Atlanta, 200,616—Fulton		
Atlanta Hospital	25	18
Battle Hill Sanatorium (T.B.)	177	165
Blackman Sanitarium	40	30

	Total Beds	Av. Beds in Use
Dr. Brawner's Sanitarium (N.& M.)	40	30
Contagious Disease Hospital	60	35
Davis—Fischer Sanatorium ★	160	80
Georgia Baptist Hospital ★	118	90
Grady Memorial Hospital ★	425	325
Mercy Hospital (Colored)	30	20
Dr. Noble's Private Infirmary	25	9
Piedmont Hospital ★	121	85
St. Joseph Infirmary ★	135	110
St. Mary's Hospital	25	15
Augusta, 55,245—Richmond		
Margaret Wright Hospital	20	11
University Hospital ★	261	148
Wilhenford Children's Hospital	50	23
Bainbridge, 4,792—Decatur		
Bainbridge Hospital	30	23
Riverside Hospital	24	16
Barwick, 381—Brooks		
Sanchez Private Sanitarium	15	6
Brunswick, 16,809—Glynn		
Brunswick City Hospital	50	20
Cairo, 1,908—Grady		
Dr. Walker's Sanitarium	15	8
Cedartown, 4,053—Polk		
Hall-Chaudron Hospital	10	3
Columbus, 44,244—Muscogee		
Columbus City Hospital	125	58
Cordele, 6,538—Crisp		
Cordele Sanatorium	12	5
Cuthbert, 3,210—Randolph		
Patterson Hospital	21	10
Decatur, 6,150—DeKalb		
Georgia Sanitarium	12	4
Scottish Rite Hospital	64	60
Donalsonville, 747—Seminole		
Chason's Hospital	40	36
Douglas, 3,401—Coffee		
Clark and Smith Sanitarium	14	6
Emory University, —— —DeKalb		
Wesley Memorial Hospital ★	300	106
Gainesville, 6,272—Hall		
Downey Hospital, Inc.	52	16
Griffin, 8,240—Spalding		
Griffin Hospital	50	18
Jesup, 1,415—Wayne		
Dr. T. W. Causey's Sanitarium	15	10
LaGrange, 23,523—Troup		
Dunson Hospital	40	24
Macon, 58,237—Bibb		
Lundy Hospital	24	15
Macon Hospital ★	125	96
Middle Georgia Sanatorium	50	17
Oglethorpe Private Infirmary	22	14
Pumpelly-Massenburg Sanatorium	30	24
Marietta, 6,190—Cobb		
Nolan Sanitarium	16	4
Milledgeville, 4,619—Baldwin		
Allen's Invalid Home (N.& M.)	127	80
City Hospital	20	10
Millen, 2,030—Jenkins		
Millen Hospital	20	6
Moultrie, 6,739—Colquitt		
The City Hospital	10	5
Newnan, 7,037—Coweta		
Newnan Hospital	30	8
Plains, 611—Sumter		
Wise Sanitarium, Inc.	60	24
Rome, 13,905—Floyd		
Frances Berrien Hospital	25	13
Harbin Hospital	75	25
Sandersville, 2,641—Washington		
Rawling's Sanitarium	100	53
Savannah, 93,134—Chatham		
Charity Hospital	42	20
Georgia Infirmary	80	55
Oglethorpe Sanatorium	50	25
Park View Sanitarium	60	50
St. Joseph's Hospital	125	96
Savannah Hospital	65	40
Telfair Hospital	52	35
Stone Mountain, 1,062—DeKalb		
The Cheston King Sanitarium, Inc. (N.&M.)	35	22
Swainsboro, 1,313—Emanuel		
Franklin-Coleman Hospital	15	8
Thomasville, 8,196—Thomas		
John D. Archbold Mem. Hosp.	94	34
Tifton, 3,005—Tift		
Coastal Plain Hospital	10	6
Valdosta, 12,554—Lowndes		
Little-Griffin Private Hospital	30	13
Vidalia, 1,776—Tombs		
Vidalia Hospital	25	15
Washington, 3,065—Wilkes		
Washington General Hospital	20	5
Waycross, 20,098—Ware		
Atlantic Coast Lines Hospital	90	40
King's Daughters' Hospital	35	25
Five General Hospitals of less than 10 beds	37	16
Total for community use, 74	4,395	2,613

In Georgia the following one hundred and ten counties have no hospitals for community use: Appling, Bacon, Banks, Bartow, Ben Hill, Berrien, Bryan, Bulloch, Burke, Butts, Calhoun, Camden, Campbell, Candler, Carroll, Catoosa, Charlton, Chattahoochee, Chattooga, Cherokee, Clay, Clayton, Clinch, Columbia, Coweta, Crawford, Dade, Dawson, Dodge, Dooly, Douglas, Early, Echols, Effingham, Elbert, Evans, Fannin, Fayette, Forsyth, Franklin, Gilmer, Glascock, Gordon, Greene, Gwinnett, Habersham, Hancock, Haralson, Harris, Hart, Heard, Henry, Houston, Jackson, Jasper, Jefferson, Johnson, Jones, Laurens, Lee, Liberty, Lincoln, Lumpkin, McDuffie, McIntosh, Macon, Madison, Marion, Meriwether, Miller, Milton, Mitchell, Monroe, Montgomery, Morgan, Murray, Newton, Oconee, Oglethorpe, Pickens, Pierce, Pike, Pulaski, Putnam, Rabun, Rockdale, Schley, Screven, Spalding, Stewart, Talbot, Taliaferro, Tattnall, Taylor, Telfair, Terrell, Towns, Twiggs, Union, Upson, Walker, Walton, Warren, Webster, Wheeler, White, Whitfield, Wilcox, Wilkinson, Worth.

IDAHO



- ● Hospital for community use.
- ✚ Tuberculosis Hospital.
- ▲ Nervous and Mental Hospital.
- ○ ✢ △ Established since 1920.

Total hospitals in Idaho, 54; for community use, 36; population per hospital bed, 432; percentage of beds occupied, 52; percentage of counties without hospitals, 52.2.

IDAHO

	Total Beds	Av. Beds in Use
American Falls, 1,547—Power		
Bethany Deaconess Hospital	17	9
Blackfoot, 4,822—Bingham		
Blackfoot General Hospital	10	8
Boise, 23,042—Ada		
St. Alphonsus Hospital ★	125	76
St. Luke's Hospital	53	43
Bonners Ferry, 1,236—Boundary		
Bonners Ferry Hospital	25	17
Coeur d'Alene, 6,473—Kootenai		
Coeur d'Alene Hospital	40	10
Elk River, —— —Clearwater		
Elk River Hospital	12	3
Gooding, 1,933—Gooding		
Gooding County Hospital	20	10
Idaho Falls, 8,064—Bonneville		
The Idaho Falls Latter-Day Saints' Hospital	64	30
Spencer Hospital, Inc.	40	20
Kellogg, 3,017—Shoshone		
Wardner Hospital	15	12
Lava Hot Springs, 662—Bannock		
Lava Hot Springs Municipal Sanitarium	30	5
Lewiston, 6,574—Nez Perce		
St. Joseph's Hospital	90	30
White Hospital	30	20
Malad City, 2,598—Oneida		
Community Hospital	10	4
Montpelier, 2,984—Bear Lake		
Montpelier Hospital	30	26
Moscow, 3,956—Latah		
Gritman Private Hospital	25	6
Inland Empire Hospital	15	9
Nampa, 7,621—Canyon		
Mercy Hospital	35	14
Nazarene Missionary Sanitarium	25	16
Pocatello, 18,337—Bannock		
Pocatello General Hospital	54	30
St. Anthony's Mercy Hospital	50	20
Potlatch, 1,500—Latah		
Potlatch Hospital	19	9
Priest River, 545—Bonner		
Priest River Hospital	15	5
Rexburg, 3,569—Madison		
Rexburg General Hospital	12	7
Sandpoint, 2,876—Bonner		
Page Hospital	30	18
Shoshone, 1,155—Lincoln		
Dill Hospital	12	6
Spirit Lake, 940—Kootenai		
Lewis and Clark Hospital	10	5
St. Maries, 1,960—Benewah		
Dr. Platt's Hospital	15	6
St. Maries Hospital	40	22
Twin Falls, 8,324—Twin Falls		
Twin Falls County General Hospital	55	31
Wallace, 2,816—Shoshone		
Providence Hospital	45	28
Wallace Hospital	50	31
Three General Hospitals of less than 10 beds	20	10
Total for community use, 36	1,138	599

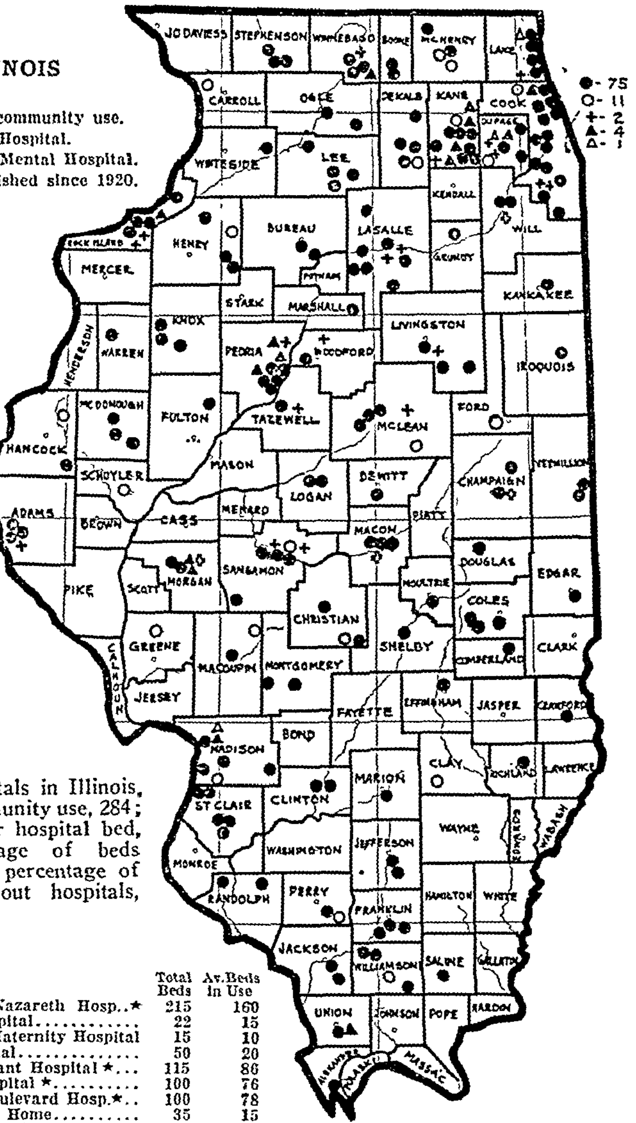
In Idaho the following twenty-three counties have no hospitals for community use: Adams, Blaine, Boise, Butte, Camas, Caribou, Clark, Custer, Elmore, Franklin, Fremont, Gem, Idaho, Jefferson, Jerome, Lemhi, Minidoka, Oneida, Owyhee, Payette, Teton, Valley, Washington.

ILLINOIS

	Total Beds	Av. Beds in Use
Alton, 26,797—Madison		
St. Joseph's Hospital	75	40
Amboy, 1,749—Lee		
Amboy Public Hospital	20	8
Anna, 2,809—Union		
Hale-Willard Memorial Hospital	26	5
Augusta, 1,146—Hancock		
Augusta Hospital	25	10
Aurora, 40,254—Kane		
Aurora Hospital	67	42
Kane Co. Spring Brook Sanitarium (T.B.)	56	53
Mercyville Sanitarium (N.& M.)	70	63
St. Charles Hospital	100	62
St. Joseph's Hospital	50	50
Batavia, 4,436—Kane		
Bellevue Place Sanitarium (N.& M.)	35	28
Kane County Home Hospital	25	20
Belleville, 26,969—St. Clair		
St. Elizabeth's Hospital	100	75
St. Vincent's Hospital	45	30
Belvidere, 7,760—Boone		
Highland Hospital	39	15
St. Joseph's Hospital	35	15
Benton, 7,201—Franklin		
Moore Hospital	25	14
Berwyn, 18,856—Cook		
Berwyn Hospital	50	20
Bloomington, 30,421—McLean		
Brokaw Hospital	75	65
Mennonite Sanitarium	65	32
St. Joseph's Hospital	225	118
Blue Island, 13,184—Cook		
St. Francis' Hospital	100	55
Breese, 2,128—Clinton		
St. Joseph's Hospital	20	7
Cairo, 15,572—Alexander		
St. Mary's Hospital	120	50
Canton, 11,027—Fulton		
Graham Hospital	26	23
Carbondale, 6,267—Jackson		
Holden Hospital	50	25
Carlinville, 5,212—Macoupin		
Kelso Hospital	10	6
Centralia, 14,032—Marion		
St. Mary's Hospital	50	25
Champaign, 18,191—Champaign		
Burnham City Hospital	65	45
Charleston, 6,600—Coles		
M. A. Montgomery Memorial Sanatorium	25	10
Chatsworth, 1,087—Livingston		
Chatsworth Hospital	10	3
Chicago, 2,995,239—Cook		
Alexian Brothers' Hospital ★	280	187
American Hospital	140	85
Annie W. Durand Hospital	60	47
Auburn Park Hospital	30	18
Augustana Hospital ★	246	214
Bethany Sanitarium and Hosp.	14	8
Burnside Hospital	50	45
Chicago E. E. N. & T. Hosp.	15	10
Chicago Fresh Air Hospital (T.B.)	104	100
Chicago General Hospital	52	32
Chicago Hospital	50	17
Chicago Lying-In Hospital	140	122
Chicago Municipal Tuberculosis Sanitarium	945	923
Chicago Sanitarium (N.& M.)	30	26
Children's Memorial Hospital †	185	153
Columbia Hospital	16	12
Columbus Hospital	165	150
Cook County Hospital ★	2,500	1,631
Cook County Psychopathic Hosp.	167	101
Englewood Hospital ★	150	110
Evangelical Deaconess Hospital	32	28
Frances E. Willard Hosp.★	125	75
Franklin Boulevard Hospital	65	60
Garfield Park Hospital, Inc.	82	70
German Evangelical Deaconess Hospital ★	150	88
The Gibbs Sanitarium (N.& M.)	27	20
Grant Hospital ★	140	113
Halsted Industrial Hospital	50	50
Henrotin Memorial Hospital	75	57
Hospital of St. Anthony de Padua ★	189	150
Illinois Central Hospital ★	175	120
Illinois E. & E. Infirmary †	140	135
Iroquois Memorial Hospital	24	27
Isolation Hospital	35	5
Jackson Park Hospital	115	85
Jefferson Park Hospital	75	53
John B. Murphy Hospital ★	100	80
Lakeside Hospital	110	70
Lake View Hospital	50	40
Lutheran Deaconess Home and Hospital ★	200	78
Lutheran Memorial Hospital ★	200	85
Mercy Hospital ★	400	325
Michael Reese Hospital ★	426	311
Mid West Hospital	60	50
Misericordia Hospital	30	15
Mother Cabrini Memorial Hosp.	150	75
Mt. Sinai Hospital ★	100	72
Municipal Contagious Hospital	300	190
North Avenue Hospital	15	7
North Chicago Hospital	90	68
Norwegian-American Hospital ★	150	121
Post Graduate Hospital	85	45
Presbyterian Hospital ★	425	368
Provident Hospital ★ (col.)	59	50
Pullman Emergency Hospital	24	5
Ravenswood Hospital ★	137	84
Research and Educational Hosp.★	150	90
Resthaven Convalescent Home	32	32
Robert Burns Hospital	40	32
Rogers Park Hospital	10	10
Roseland Community Hospital	101	48
Shore View Sanitarium	10	8
South Chicago Community Hosp.	44	30
South Shore Hospital ★	125	85
St. Anne's Hospital ★	100	97
St. Bernard's Hospital ★	200	140
St. Elizabeth's Hospital ★ †	225	112
St. Joseph's Hospital ★	205	120
St. Luke's Hospital ★	800	283
St. Mary of Nazareth Hosp.★	215	160
St. Paul's Hospital	22	15
St. Vincent's Maternity Hospital	15	10
Streeter Hospital	50	20
Swedish Covenant Hospital ★	115	86
University Hospital ★	100	76
Washington Boulevard Hosp.★	100	78
Washingtonian Home	35	15
Washington Park Hospital ★	170	109
Wesley Memorial Hospital ★	250	213
West Side Hospital ★	166	106
Women and Children's Hosp.★	100	75
Chicago Heights, 22,117—Cook		
St. James' Hospital	60	36
Christopher, 1,825—Franklin		
Christopher Hospital	15	8
Clinton, 5,898—De Witt		
Dr. John Warner Hospital	25	8
Compton, 387—Lee		
Compton Hospital	10	6
Creal Springs, 936—Williamson		
Creal Springs Sanitarium	40	15
Danville, 37,021—Vermilion		
Lake View Hospital ★	112	84
St. Elizabeth's Hospital	125	120
Decatur, 53,859—Macon		
Decatur & Macon Co. Hosp.★	130	102
Macon Co. Tuberculosis Sanat.	40	39
St. Mary's Hospital	106	92
Wabash Employees' Hospital	85	54
Deerfield, —— —Lake		
Ridge Farm Preventorium	28	27
DeKalb, 9,259—DeKalb		
DeKalb Public Hospital	50	24
St. Mary's Hospital	50	35
Dixon, 8,191—Lee		
Dixon Public Hospital	35	27
DuQuoin, 7,285—Perry		
Marshall Browning Hospital	65	13
East St. Louis, 71,423—St. Clair		
Evangelical Deaconess Hospital	50	40
St. Mary's Hospital	110	90
Edwardsville, 5,336—Madison		
Madison County Hospital	20	18
Elgin, 28,291—Kane		
Lakeview Sanatorium	15	2
Resthaven Sanitarium (N.& M.)	60	56
Sherman Hospital	85	60
St. Joseph's Hospital	60	54
Eureka, 1,159—Woodford		
Eureka Hospital	10	5
Evanston, 43,883—Cook		
Evanston Hospital ★	213	154
Evanston Sanitarium	12	7
Grove House for Convalescents	35	30
St. Francis Hospital ★	150	94
Flora, 2,704—Clay		
Flora Hospital	14	5
Freeport, 20,688—Stephenson		
Evangelical Deaconess Hosp.	35	24
Freeport General Hospital	35	23
St. Francis Hospital	125	110
Galesburg, 24,822—Knox		
Galesburg Cottage Hospital	79	53
St. Mary's Hospital	60	51
Geneseo, 3,375—Henry		
J. C. Hammond City Hospital	12	6
Geneva, 2,803—Kane		
Community Hospital	75	35
Granite City, 18,166—Madison		
St. Elizabeth's Hospital	60	52

ILLINOIS

- ● Hospital for community use.
- ✚ Tuberculosis Hospital.
- ▲ Nervous and Mental Hospital.
- ○ ✚ △ Established since 1920.



Total hospitals in Illinois, 380; for community use, 284; population per hospital bed, 275; percentage of beds occupied, 69; percentage of counties without hospitals, 31.3.

	Total Beds	Av. Beds in Use
Harrisburg, 7,125—Saline		
Harrisburg Hospital	30	15
Lightner Hospital	30	16
Harvard, 3,294—McHenry		
Harvard General Hospital	30	15
Peck's Hospital	12	7
Harvey, 9,216—Cook		
Ingalls Memorial Hospital	50	35
Henry, 1,637—Marshall		
Drs. Cromwell & Coggshall Hospital	10	5
Herrin, 13,323—Williamson		
Herrin Hospital	40	12
Highland, 2,675—Madison		
St. Joseph's Hospital	50	48
Highland Park, 6,167—Lake		
Highland Park Hospital	56	28
Hillsboro, 5,074—Montgomery		
Hillsboro Hospital	26	20
Hinsdale, 2,451—DuPage		
Hinsdale Sanitarium	150	131
Jacksonville, 15,931—Morgan		
Norbury Sanatorium (N.& M.)	100	91
Oaklawn Sanatorium (T.B.)	30	25
Our Savior's Hospital	90	60
Passavant Memorial Hospital	80	46
Joliet, 40,578—Will		
Silver Cross Hospital	94	74
St. Joseph's Hospital	160	160
Will Co. Tuberculosis Sanitarium	70	35
Kankakee, 18,470—Kankakee		
St. Mary's Hospital	88	50
Kenilworth, 1,188—Cook		
Kenilworth Sanitarium (N.& M.)	34	25
Kewanee, 19,733—Henry		
Kewanee Public Hospital	53	31
St. Francis Hospital	55	30
La Harpe, 1,349—Hancock		
Davier Memorial Hospital	15	6
Lake Forest, 3,657—Lake		
Alice Home Hospital	25	9
LaSalle, 13,907—LaSalle		
St. Mary's Hospital	80	50
LeRoy, 1,680—McLean		
O. M. Thompson Sanitarium	10	6
Lincoln, 12,443—Logan		
Evangelical Deaconess Hospital	60	36
St. Clara's Hospital	65	45
Litchfield, 6,215—Montgomery		
St. Francis' Hospital	120	100
Mackinaw, 822—Tazewell		
Oak Knoll (T.B.)	38	37
Macomb, 6,714—McDonough		
Holmes Hospital	50	50
Marietta Phelps Hospital	30	17
St. Francis' Hospital	50	30
Marion, 9,582—Williamson		
Marion Hospital	18	8
Mattoon, 14,739—Coles		
Memorial Methodist Hospital	40	28
Maxwell, (Hanna City, P.O.)—Peoria		
Peoria County Hospital	55	30
Mendota, 3,934—La Salle		
Harris Hospital	20	8
Minonk, 2,109—Woodford		
Woodford County Tuberculosis Sanatorium	16	14
Moline, 33,910—Rock Island		
Lutheran Hospital	63	46
Moline City Hospital	100	36
Monmouth, 8,116—Warren		
Monmouth Hospital	33	25
Mooseheart, —— —Kane		
Mooseheart Hospital	70	50
Morris, 4,505—Grundy		
Morris Hospital	20	14
Mt. Vernon, 9,815—Jefferson		
Dr. Edmundson's E. E. N. and T. Infirmary	15	10
Mt. Vernon Hospital	40	24
Murphysboro, 12,524—Jackson		
St. Andrew's Hospital	50	50
Naperville, 3,830—DuPage		
Edward Sanatorium (T.B.)	90	85
Mrs. Mary C. Samuels *Home*	10	5
Normal, 5,143—McLean		
Fairview Sanatorium (T.B.)	49	46
Oak Forest, —— —Cook		
Cook County Tuberculosis Hosp.	628	467
Oak Park, 51,423—Cook		
Oak Park Hospital ★	135	90
West Suburban Hospital ★	200	160
Olney, 4,491—Richmond		
Olney Sanitarium	75	43
Oregon, 2,227—Ogle		
Oregon Hospital	14	4
Ottawa, 11,542—LaSalle		
Buffalo Rock Sanitarium	90	New
Highland, LaSalle Co. T.B. Sanitarium	50	44
Illinois Valley Hospital	20	15
Ottawa Tuberculosis Sanatorium	50	45
Ryburn Memorial Hospital	52	30
Palatine, 1,210—Cook		
Palatine Hospital	12	9
Pana, 6,122—Christian		
Huber Memorial Hospital	43	22
The Little Sanitarium	30	New
Paris, 7,985—Edgar		
Paris Hospital	25	15
Pekin, 13,324—Tazewell		
Pekin Public Hospital	30	20
Peoria, 81,564—Peoria		
John C. Proctor Hospital	118	75
Methodist Hospital	93	88
Michell Farm (N.& M.)	25	20
Peoria Isolation Hospital	42	9
Peoria Municipal Tuberculosis Sanitarium	50	43
Peoria Sanitarium (N.& M.)	25	20
St. Francis' Hospital ★	225	142
Sulphur Springs Sanitarium	20	10
Peru, 8,869—LaSalle		
Isolation Hospital	20	2
Peoples Hospital	40	34
Pontiac, 6,664—Livingston		
Livingston County Sanatorium *(T.B.)*	*30*	24
St. James' Hospital	50	26
Princeton, 4,131—Bureau		
Julia Rackley Perry Memorial Hospital	28	12
Quincy, 37,478—Adams		
Adams Co. Tuberculosis Sanat.	50	34
Blessing Hospital	100	65
St. Mary's Hospital	180	130
Red Bud, 1,240—Randolph		
St. Clement's Hospital	20	3
Robinson, 3,368—Crawford		
Robinson Hospital	18	6
Rochelle, 3,310—Ogle		
Lincoln Hospital	56	23
Rockford, 76,462—Winnebago		
Rockford Hospital	88	60
Rockford Municipal Sanitarium (T.B.)	65	60
St. Anthony's Hospital	125	100
Swedish-American Hospital	64	47
Dr. Wilgus' Sanitarium (N.& M.)	35	30
Rock Island, 40,073—Rock Island		
Rock Island Municipal T.B. Sanatorium	20	20
St. Anthony's Hospital	150	85
Rushville, 2,275—Schuyler		
Culbertson Hospital	20	9
Sandwich, 2,459—DeKalb		
Woodward Memorial Hospital	14	10
Savanna, 5,237—Carroll		
Savanna City Hospital	14	9
Shelbyville, 3,590—Shelby		
Shelby Co. Memorial Hospital	18	10
Sparta, 3,340—Randolph		
Dr. Stevenson's Sanitarium	10	7
Springfield, 63,923—Sangamon		
David Prince Sanitarium	50	20
Palmer Tuberculosis Sanatorium	86	78
Springfield Hospital	100	80
St. John's Hospital	500	380
St. John's Sanitarium (T.B.)	190	185
Springvalley, 6,493—Bureau		
St. Margaret's Hospital	65	42
St. Charles, 4,099—Kane		
St. Charles City Hospital	25	12
Sterling, 8,182—Whiteside		
Public Hospital	25	10
Streator, 15,076—LaSalle		
St. Mary's Hospital	125	90
Sublette, 300—Lee		
Angear Hospital	15	4
Sycamore, 3,926—DeKalb		
Sycamore Municipal Hospital	20	9
Taylorville, 5,806—Christian		
St. Vincent's Hospital	60	40
Tuscola, 2,453—Douglas		
Jarman Memorial Hospital	28	11
Urbana, 11,348—Champaign		
Champaign County Hospital	18	16
Mercy Hospital	38	27
The Outlook (Champaign County T.B. Sanitarium)	48	42
Vandalia, 3,316—Fayette		
Mark Greer Hospital	19	New
Waterman, 450—DeKalb		
East Side Hospital	15	12
Watseka, 2,476—Iroquois		
Iroquois Hospital	27	20
Waukegan, 22,023—Lake		
Lake County General Hospital	65	61
Sheridan Road Sanitarium (N.& M.)	15	12
Victory Memorial Hospital	75	54
West Frankfort, 8,478—Franklin		
West Frankfort Union Hospital	100	64
Wheaton, 4,137—DuPage		
Howe Home	17	13
Mary E. Pogue Sanitarium (N.& M.)	35	33
Wheeling, 313—Cook		
Wheeling Hospital	10	4
White Hall, 2,954—Greene		
Walton Hospital	10	3
Winfield, 121—DuPage		
Chicago-Winfield Tuberculosis Sanitarium	112	102
Winfield Farms Sanitarium (N.& M.)	11	7
Winnetka, 6,694—Cook		
North Shore Health Resort	100	80
Woodstock, 5,523—McHenry		
Woodstock Hospital	20	15
Zeigler, 500—Franklin		
Zeigler Hospital	35	10
Nine General Hospitals of less than 10 beds	60	31
Total for community use, 284	25,240	17,557

In Illinois the following thirty-two counties have no hospitals for community use: Bond, Brown, Calhoun, Cass, Clark, Edwards, Fayette, Gallatin, Hamilton, Hardin, Henderson, Jasper, Jersey, Jo Daviess, Johnson, Kendall, Lawrence, Mason, Massac, Menard, Mercer, Monroe, Platt, Pike, Pope, Pulaski, Scott, Stark, Wabash, Washington, Wayne, White.

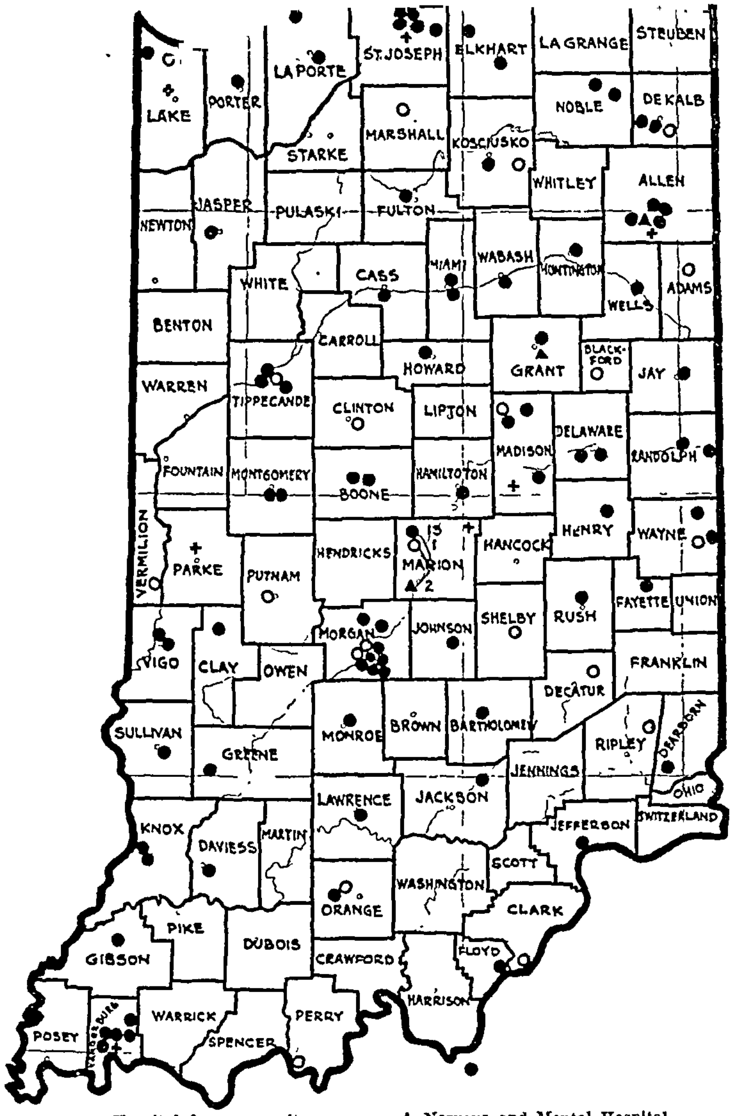
INDIANA

	Total Beds	Av. Beds in Use
Alexandria, 4,172—Madison		
Alexandria Hospital	12	4
Anderson, 33,854—Madison		
Madison County Hospital (T.B.)	28	25
New Home Hospital	18	10
St. John's Hospital	100	30
Auburn, 3,919—DeKalb		
Dr. Bonnell M. Souder Hosp.	12	6
Bedford, 8,963—Lawrence		
Dunn Memorial Hospital	25	12
Bloomington, 12,589—Monroe		
Bloomington Hospital	35	20
Bluffton, 5,391—Wells		
Wells County Hospital	18	11
Brazil, 9,293—Clay		
Community Hospital	17	5
Clinton, 13,642—Vermilion		
Vermilion County Hospital	45	25
Columbus, 8,990—Bartholomew		
Bartholomew County Hospital	25	19
Connersville, 12,454—Fayette		
Fayette Memorial Hospital	37	24
Crawfordsville, 10,530—Montgomery		
Ben Hur Sanitarium	10	4
Culver Hospital	19	12
Crown Point, 3,232—Lake		
Lake Co. Tuberculosis Sanat.	100	89
Decatur, 4,762—Adams		
Adams Co. Memorial Hospital	50	25
Dillsboro, 471—Dearborn		
Dillsboro Sanitarium	120	70
Elkhart, 27,104—Elkhart		
Elkhart General Hospital	60	38
Elwood, 10,790—Madison		
Hoppenrath Hospital	10	4
Evansville, 93,601—Vanderburg		
Boehne Tuberculosis Sanatorium	80	31
The Hayden Hospital	40	25
Protestant Deaconess Hospital	120	75
St. Mary's Hospital	115	65
Walker Hospital	75	47
Frankfort, 13,051—Clinton		
Clinton County Hospital	51	14
Ft. Wayne, 97,846—Allen		
Allen Co. Isolation Hospital	11	1
Ft. Wayne Lutheran Hospital ★	115	102
Irene Byron T.B. Sanatorium	186	145
Methodist Episcopal Hospital	109	85
Dr. Pulliam's Private Sanitarium (N.& M.)	15	10
St. Joseph's Hospital ★	200	145
Garrett, 4,796—DeKalb		
Sacred Heart Hospital	40	30
Gary, 76,870—Lake		
Gary Hospital	100	40
Methodist Episcopal Hospital	100	60
St. Antonio Hospital	50	20
St. Mary's Mercy Hospital ★	125	115
Goshen, 9,525—Elkhart		
Goshen Hospital	38	12
Greencastle, 3,780—Putnam		
Putnam County Hospital	40	9
Greensburg, 5,345—Decatur		
Decatur Co. Memorial Hospital	35	10
Hammond, 50,385—Lake		
St. Margaret's Hospital ★	250	81
Hartford City, 6,183—Blackford		
Blackford County Hospital	30	10
Huntington, 15,914—Huntington		
Huntington County Hospital	25	20
Indianapolis, 358,819—Marion		
Dr. Batties Sanitarium	15	7
Indiana Christian Hospital	120	55
Indianapolis City Hospital ★	550	381
James Whitcomb Riley Hosp. †	150	141
Joseph Eastman Hospital	13	3
Julietta Insane Hospital	154	145
Methodist Episcopal Hospital ★	350	269
Mt. Jackson Sanitarium	32	28
Neuronhurst, Dr. Fletcher's Sanatorium (N.& M.)	50	40
Norways Sanatorium	30	20
Provident Hospital	30	10
Robt. W. Long Hospital ★	104	85
St. Francis Hospital	90	79
St. Vincent's Hospital ★	223	175
Jeffersonville, 10,098—Clark		
Clark Co. Memorial Hospital	36	14
Kendallville, 4,981—Noble		
Lakeside Hospital	11	8

	Total Beds	Av. Beds in Use
La[illegible]		
[illegible]	80	51
[illegible]	250	145
[illegible]	50	38
La Porte, [illegible]		
Holy Family Hospital..........	95	33
Lebanon, 6,257—Boone		
The Williams Hospital.........	30	15
Witham Memorial Hospital.....	21	10
Linton, 5,906—Greene		
Freeman City Hospital.........	14	5
Logansport, 23,120—Cass		
St. Joseph's Hospital............	75	30
Madison, 6,711—Jefferson		
King's Daughters' Hospital.....	30	12
Marion, 26,274—Grant		
Grant Co. Hospital............	45	27
Martinsville, 4,895—Morgan		
Barnard's Sanitarium..........	30	24
Colonial Mineral Springs.......	50	50
Hill House Sanitarium.........	60	40
Home Lawn Mineral Springs Sanitarium	205	150
Martinsville Sanitarium........	110	85
Morgan Co. Memorial Hospital.	30	7
Dr. Scherer's Sanitarium.......	125	60
Whiting Mineral Springs Sanitarium	45	18
Michigan City, 20,299—La Porte		
St. Anthony's Hospital........	100	75
Milan, 718—Ripley		
Miwogco Mineral Springs & Sanitarium	120	40
Mishawaka, 16,671—St. Joseph		
St. Joseph Hospital............	78	54
Muncie, 42,491—Delaware		
Muncie Home Hospital.........	62	39
New Albany, 22,992—Floyd		
St. Edward's Hospital..........	100	75
Newcastle, 16,955—Henry		
Miller Hospital................	31	12
Newcastle Clinic Hospital......	14	10
Noblesville, 4,758—Hamilton		
Hamilton Co. Hospital.........	25	12
Oaklandon, 353—Marion		
Sunnyside Sanatorium (T.B.)..	180	175
Peru, 12,683—Miami		
Miami Co. Hospital...........	20	12
Wabash R.R. Employees Hosp..	35	25
Plymouth, 4,338—Marshall		
Marshall Co. Hospital.........	12	4
Portland, 5,958—Jay		
Jay Co. Hospital.............	12	10
Princeton, 7,132—Gibson		
Methodist Episcopal Hospital...	30	18
[illegible] 2,912—Jasper		
[illegible].....	17	10
[illegible]		
[illegible].....	63	42
[illegible].....	25	14
Rochester, 3,720—Fulton		
Woodlawn Hospital............	15	12
Rome City, 450—Noble		
Kneipp Sanitarium............	200	150
Rushville, 5,498—Rush		
Dr. Sexton's Hospital..........	11	7
Seymour, 7,348—Jackson		
Schneck Memorial Hospital.....	15	6
Shelbyville, 9,701—Shelby		
The Major Memorial Hospital..	44	14
South Bend, 80,091—St. Joseph		
Epworth Hospital ★...........	150	90
Healthwin Hospital (T.B.).....	115	108
St. Joseph Hospital............	125	60
Sullivan, 4,489—Sullivan		
Mary Sherman Memorial Hosp.	60	28
Tell City, 4,086—Perry		
Parkview Hospital.............	10	2
Terre Haute, 71,071—Vigo		
St. Anthony's Hospital ★.......	210	80
Union Hospital................	135	91
Union City, 3,406—Randolph		
Union City Hospital...........	15	5
Valparaiso, 6,518—Porter		
Christian Hospital.............	23	14
Vincennes, 18,271—Knox		
Good Samaritan Hospital.......	94	40
Wabash, 9,872—Wabash		
Wabash *Co. Hospital*..........	35	15
Warsaw, 5,478—Kosciusko		
McDonald Hospital............	16	8
Washington, 8,705—Daviess		
Daviess Co. Hospital...........	22	3
West Baden, 832—Orange		
West Baden Springs Hotel Clinic	75	25
Winchester, 4,021—Randolph		
Randolph Co. Hospital.........	18	3
Two General Hospitals of less than 10 beds......................	12	8
Total for community use, 115.....	8,318	5,241

In Indiana the following thirty counties have no hospitals *for community* use: Benton, Brown, Carroll, Crawford, Dubois, Fountain, Franklin, Hancock, Hendricks, Jennings, Lagrange, Martin, Newton, Ohio, Owen, Parke, Perry, Pike, Posey, Scott, Spencer, Starke, Switzerland, Tipton, Union, Warren, Warrick, Washington, White, Whitley.

INDIANA



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✜ △ Established since 1920.

Total hospitals in Indiana, 167; for community use, 115; population per hospital bed, 366; percentage of beds occupied, 63; percentage of counties without hospitals, 32.6.

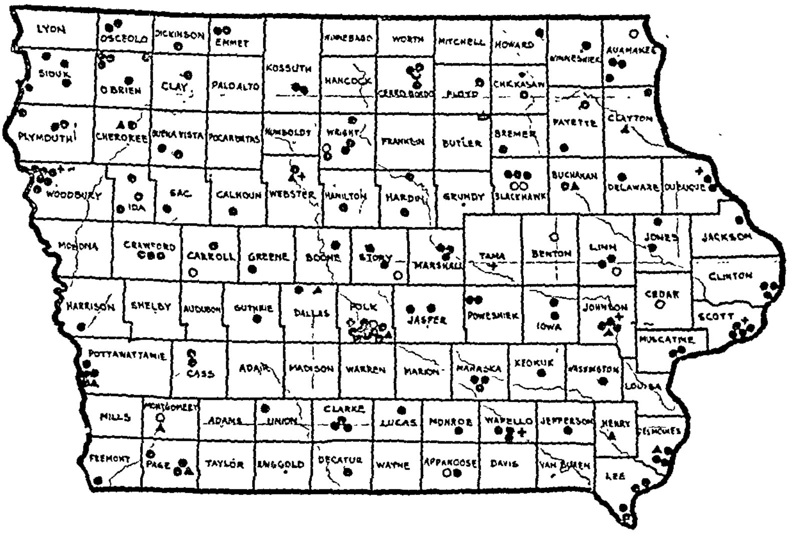
IOWA

	Total Beds	Av Beds in Use
Akron, 1,324—Plymouth		
Akron Hospital................	20	14
Albia, 5,067—Monroe		
Miner's Hospital..............	40	25
Algona, 3,724—Kossuth		
Algona Hospital..............	12	6
Kossuth Hospital..............	15	9
Alta, 1,290—Buena Vista		
Alta Hospital................	12	6
Ames, 6,270—Story		
Iowa State College Hospital....	110	18
Mary Greeley Memorial Hospital	35	10
Anamosa, 2,881—Jones		
Mercy Hospital...............	40	25
Atlantic, 5,329—Cass		
Atlantic Hospital..............	30	15
Battle Creek, 785—Ida		
New *Battle* Creek *Hospital*.....	14	10
Bellevue, 1,663—Jackson		
Moulton Hospital..............	20	12
Boone, 12,663—Boone		
Eleanor Moore Hospital........	50	19
Burlington, 26,375—Des Moines		
Burlington Protestant Hospital.	75	68
Des Moines County Asylum (N.& M.)	66	50
Mercy Hospital...............	50	35
St. Francis Hospital...........	50	38
Carroll, 4,254—Carroll		
St. Anthony's Hospital.........	120	40
Cedar Falls, 6,516—Blackhawk		
Sartori Memorial Hospital......	21	13
Cedar Rapids, 45,566—Linn		
Mercy Hospital...............	200	175
St. Luke's Methodist Hospital ★.	100	75
Centerville, 8,486—Appanoose		
Protestant Hospital, Inc........	25	15
St. Joseph *Hospital*............	50	30
Chariton, 5,175—Lucas		
Iowa *Cancer Hospital*..........	20	9
Charles City, 7,350—Floyd		
Cedar Valley Hospital..........	25	15
Cherokee, 4,552—Cherokee		
Sioux Valley Hospital.........	35	9
Clarinda, 4,511—Page		
Kennelworth Hospital..........	32	15
Clarion, 2,626—Wright		
Tomphins & Walker Hospital...	10	4
Clinton, 26,436—Clinton		
Jane Lamb Memorial Hospital..	90	52
St. Joseph's Mercy Hospital....	60	40
Colfax, 2,504—Jasper		
The Colfax Sanitarium.........	26	15
Council Bluffs, 36,162—Pottawattamie		
Jennie Edmundson Memorial Hospital....................	110	62
Mercy Hospital...............	100	62
St. Bernard's Hospital.........	250	218

	Total Beds	Av. Beds in Use
Cresco, 3,195—Howard		
St. Joseph's Mercy Hospital....	31	9
Creston, 8,034—Union		
Greater Community Hospital..	40	28
Davenport, 56,727—Scott		
Davenport Hospital............	40	27
Mercy Hospital ★.............	125	90
Pine Knoll Sanitarium (T.B.)..	80	46
St. Luke's Hospital...........	63	41
Decorah, 4,039—Winneshiek		
Decorah Hospital..............	20	7
Denison, 3,591—Crawford		
Denison Hospital..............	15	4
Des Moines, 126,468—Polk		
Broadlawns, Polk Co. Public Hospital (T.B.).............	60	58
Des Moines City Hospital.....	75	55
Des Moines Detention Hospital..	40	8
Iowa Congregational Hospital...	45	30
Iowa Lutheran Hospital ★......	150	120
Iowa Methodist Hospital ★......	242	171
Mercy Hospital ★..............	142	129
Polyclinic Hospital............	60	35
The Retreat (N.& M.).........	50	35
Dubuque, 40,996—Dubuque		
Finley Hospital...............	100	55
St. Joseph's Mercy Hospital....	125	50
St. Joseph's Sanitarium (N.& M.)	250	205
Sunny Crest Sanatorium (T.B.)	50	46
Eldora, 3,189—Hardin		
Eldora Booth Memorial Hospital	20	3
Elkader, 1,223—Clayton		
Clayton Co. Hospital for Insane	55	45
[illegible]		
[illegible] ..	25	10
[illegible]	45	20
[illegible]		
[illegible]	35	20
[illegible]		
[illegible] (T.B.)......................	20	15
St. Joseph's Mercy Hospital....	112	55
Ft. Madison, 12,066—Lee		
Sacred Heart Hospital.........	35	30
Grinnell, 5,362—Poweshiek		
Grinnell Community Hospital...	56	12
St. Francis Hospital...........	40	18
Guthrie Center, 1,727—Guthrie		
Harrison Surgical Hospital.....	10	2
Hamburg, 1,817—Fremont		
Hamburg Hospital.............	10	4
Hartley, 1,306—O'Brien		
Hand Hospital................	12	5
Hawarden, 2,491—Sioux		
Hawarden Hospital............	10	5
Hull, 791—Sioux		
The Hull Hospital, Inc.........	16	6
Ida Grove, 2,020—Ida		
Ida Grove General Hospital....	12	5
Independence, 3,673—Buchanan		
Peoples Hospital of Buchanan Co.	24	9
Iowa City, 11,267—Johnson		
Mercy Hospital................	125	40
University Hospital ★..........	724	668
Iowa Falls, 3,954—Hardin		
Ellsworth Hospital.............	17	12
Keokuk, 14,423—Lee		
W. C. Graham Protestant Hosp.	40	25
St. Joseph's Hospital..........	75	60
Lake City, 3,110—Calhoun		
McCrary Hospital..............	25	7
Le Mars, 4,683—Plymouth		
Community Hospital...........	23	6
Sacred Heart Hospital.........	90	20
Manchester, 3,111—Delaware		
Manchester Hospital...........	10	3
Marengo, 2,048—Iowa		
Mineral Springs Hospital......	15	5
Marshalltown, 15,731—Marshall		
Evangelical Deaconess Hospital.	72	52
Mercy Hospital................	75	35
Mason City, 22,682—Cerro Gordo		
Detention Hospital.............	12	2
Park Hospital.................	50	31
St. Joseph's Mercy Hospital....	70	35
Story Hospital................	13	7
McGregor, 1,239—Clayton		
Clark Hospital................	15	4
Monticello, 2,257—Jones		
John McDonald Hospital.......	28	17
Muscatine, 16,068—Muscatine		
Bellevue Hospital.............	35	10
Benj. Hershey Memorial Hosp..	50	21
Nevada, 2,668—Story		
Iowa Sanitarium and Hospital..	50	25
New Albin, 683—Allamakee		
New Albin Hospital............	20	10
New Hampton, 2,539—Chickasaw		
St. Joseph's Hospital..........	50	35
Newton, 6,627—Jasper		
City Hospital..................	44	15
Odebolt, 1,445—Sac		
Odebolt Hospital and Clinic...	10	3
Oelwein, 7,455—Fayette		
Oelwein Hospital, Inc..........	15	12
Osceola, 2,684—Clarke		
Harken Hospital...............	20	9
Osceola Hospital..............	10	5
Osceola Sanitarium and Hosp..	10	7
Oskaloosa, 9,427—Mahaska		
Abbott Hospital...............	35	25
Mahaska Hospital.............	25	18
Mercy Hospital................	40	23
Ottumwa, 23,003—Wapello		
Ottumwa Hospital.............	53	34
St. Joseph Hospital............	35	25
Sunny Slope Sanatorium (T.B.)	40	34
Perry, 5,642—Dallas		
King's Daughters' Hospital.....	20	12
Postville, 1,039—Allamakee		
Postville Hospital.............	21	12
Red Oak, 5,578—Montgomery		
Red Oak Clinical Hospital.....	30	10
Rock Valley, 1,347—Sioux		
Rock Valley Hospital..........	10	3
Sheldon, 3,488—O'Brien		
Cram's Hospital...............	12	7
The Myers Hospital............	20	4
Shenandoah, 5,255—Page		
Henry & Catherine Hand Hosp.	26	15
Sibley, 1,803—Osceola		
Osceola Hospital..............	10	4
The Sibley Hospital...........	12	7
Sigourney, 2,210—Keokuk		
Sigourney Hospital............	10	5
Sioux City, 71,227—Woodbury		
Lutheran Hospital.............	85	29
The Methodist Hospital........	125	50
Sioux City Maternity Hospital..	24	14
St. Joseph's Mercy Hospital ★..	225	175
St. Vincent's Hospital........	125	65
Spencer, 4,599—Clay		
Spencer Hospital	10	6
Storm Lake, 3,658—Buena Vista		
Swallum Hospital.............	23	5
Vinton, 3,381—Benton		
Virginia Gay Memorial Hosp..	30	5
Washington, 4,697—Washington		
Washington Co. Hospital......	30	12
Waterloo, 36,771—Blackhawk		
Allen Memorial Hospital.......	91	25
St. Francis Hospital...........	75	60
Synodical Presbyterian Hosp..	50	25
Waverly, 3,352—Bremer		
St. Joseph's Mercy Hospital....	50	25
Webster City, 5,657—Hamilton		
St. Joseph's Mercy Hospital....	24	16
West Union, 1,777—Fayette		
West Union Community Hospital	15	7
Williamsburg, 1,251—Iowa		
The Watts Hospital............	12	8
Fourteen General Hospitals of less than 10 beds...................	91	40
Total for community use, 145.....	7,533	4,708

In Iowa the following twenty-seven counties have no hospitals for community use: Adair, Adams, Audubon, Butler, Davis, Franklin, Grundy, Hancock, Henry, Humboldt, Louisa, Lyon, Madison, Marion, Mills, Mitchell, Monona, Palo Alto, Pocahontas, Ringgold, Shelby, Taylor, Van Buren, Warren, Wayne, Winnebago, Worth.

IOWA



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✣ △ Established since 1920.

Total hospitals in Iowa, 197; for community use, 145; population per hospital bed, 332; percentage of beds occupied, 62; percentage of counties without hospitals, 27.2.

KANSAS

	Total Beds	Av. Beds in Use
Abilene, 4,895—Dickinson		
The Dickinson Co. Memorial Hospital	20	8
Anthony, 2,740—Harper		
The Galloway Hospital.........	20	10
Arkansas City, 14,003—Cowley		
Arkansas City Hospital........	50	15
Mercy Hospital................	22	18
Atchison, 15,028—Atchison		
Atchison Hospital Association..	25	12
Prospect Park Sanitarium (N.& M.)	40	25
Atwood, 919—Rawlins		
Henneberger Hospital..........	12	5
Augusta, 4,219—Butler		
Augusta Hospital..............	24	7
Baxter Springs, 3,608—Cherokee		
Wallace Hospital..............	11	5
Belleville, 2,254—Republic		
R. G. Patterson Memorial Hosp.	22	10
Beloit, 3,315—Mitchell		
The Beloit Hospital............	12	10
Bonner Springs, 1,626—Wyandotte		
Bonner Springs Sanitarium (N.& M.)...................	25	17
Chanute, 9,829—Neosho		
Johnson Hospital..............	30	20
Coffeyville, 16,229—Montgomery		
Coffeyville General Hospital....	10	5
South East Kansas Hospital...	26	17
Columbus, 3,155—Cherokee		
Maud Norton Mem. City Hosp..	12	6
Concordia, 4,705—Cloud		
Concordia Hospital............	40	11
St. Joseph's Hospital..........	75	51
Council Grove, 2,857—Morris		
Council Grove Hospital........	10	5
Dodge City, 5,061—Ford		
McCarty Hospital.............	14	10
St. Anthony's Hospital........	20	20
Eldorado, 9,500—Butler		
St. Luke's Hospital...........	50	17
Ellsworth, 2,065—Ellsworth		
Ellsworth Hospital............	40	20
Emporia, 12,243—Lyon		
Newman Memorial Co. Hospital	65	36
St. Mary's Hospital...........	24	10
Ft. Scott, 11,763—Bourbon		
Ft. Scott Hospital............	50	42
Mercy Hospital...............	45	25
Garden City, 3,848—Finney		
Bailey Hospital...............	10	10
Garden City Hospital.........	12	8
Goessel, 80—Marion		
Bethesda Hospital............	25	18
Goodland, 2,664—Sherman		
Goodland Methodist Hospital...	15	7
Great Bend, 4,460—Barton		
St. Rose Hospital.............	50	25
Halstead, 1,663—Harvey		
Halstead Hospital	70	49
Hays, 3,165—Ellis		
Hays Protestant Hospital.......	35	17
St. Anthony's Hospital........	50	37

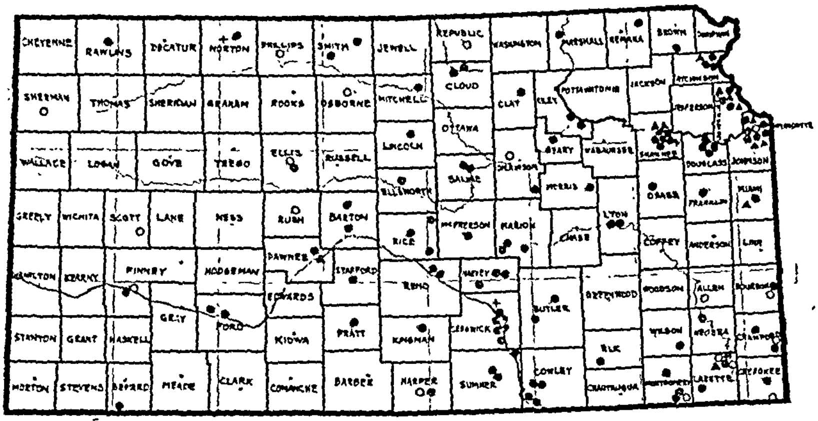
	Total Beds	Av. Beds in Use
Herington, 4,065—Dickinson		
Herington Hospital	15	12
Hillsboro, 1,451—Marion		
Salem Home & Hospital	35	13
[illegible] 2,305—Barton		
[illegible]	20	10
[illegible]		
Hor[illegible]	12	4
Hutch[illegible]		
Gra[illegible]	85	42
St. [illegible]	75	23

	Total Beds	Av. Beds in Use
Parsons, 14,839—Labette		
Mercy Hospital	50	10
M. K. & T. Railroad Hosp.	56	26
Parsons Hospital	10	8
C. T. Wood's Memorial Hospital	15	7
Pittsburg, 19,182—Crawford		
Mt. Carmel Hospital	75	50
Owensby Hospital	35	21
Pratt, 5,111—Pratt		
The Ninnesch Hospital	22	15

	Total Beds	Av. Beds in Use
Winfield, 7,933—Cowley		
St. Mary's Hospital	50	25
Winfield Hospital	25	15
Five General Hospitals of less than 10 beds	32	18
Total for community use, 112	4,416	2,501

In Kansas the following *forty-four counties have no hospitals for community use:* Anderson, Barber, Chase, Chautauqua, Cheyenne, Clark, Coffey, Comanche, Decatur, Doniphan, Edwards, Gove, Graham, Grant, Gray, Greeley, Greenwood, Hamilton, Haskell, Hodgeman, Jackson, Jefferson, Jewell, Kearny, Kiowa, Lane, Linn, Logan, Meade, Morton, Ness, [illegible] sell, Sheridan, Stanton [illegible] Wabaunsee, Wallace [illegible] *Woodson.*

KANSAS



● *Hospital for community use.*
✚ *Tuberculosis Hospital.*
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Kansas, 147; *for community use,* 112; *population per hospital bed,* 410; percentage of beds occupied, 56; percentage of counties without hospitals, 41.9.

	Total Beds	Av. Beds in Use
Independence, 10,900—Montgomery		
West Side Hospital	35	25
Junction City, 7,533—Geary		
Junction City Municipal Hosp.	30	10
Kansas City, 116,053—Wyandotte		
Bell Memorial Hospital ★	120	96
Bethany Methodist Hospital	120	99
Douglass Hospital	21	16
Grandview Sanitarium (N.& M.)	38	26
Providence Hospital	65	40
St. Margaret's Hospital ★	400	98
Kingman, 2,407—Kingman		
Kingman Hospital	12	8
LaCrosse, 808—Rush		
Baker Hospital	21	6
Larned, 3,139—Pawnee		
Larned Hospital	20	10
Lawrence, 12,341—Douglas		
Lawrence Hospital	25	12
Lawrence Memorial Hospital	25	12
McConnell Hospital	25	5
Simmons Hospital	14	8
Leavenworth, 20,889—Leavenworth		
County Hospital	20	15
Cushing Hospital	20	10
Elmwood Hospital (N.& M.)	20	15
St. John's Hospital	75	50
Lebanon, 822—Smith		
Lebanon Hospital	20	5
Liberal, 3,613—Seward		
Epworth Hospital	50	20
Lincoln, 1,613—Lincoln		
Dr. Cole's Sanitarium	16	7
Little River, 749—Rice		
Hoffman Memorial Hospital	15	10
Lyons, 2,516—Rice		
Lyons Hospital	18	5
Manhattan, 7,989—Riley		
Charlotte Swift Memorial Hosp.	21	15
Park View Hospital	15	11
Marion, 1,928—Marion		
Marion Hospital	10	5
[illegible] —Marshall		
[illegible]	10	4
[illegible]		
[illegible]	50	24
[illegible]		
[illegible]	18	5
[illegible]		
Atchison, Topeka and Santa Fe Hospital	40	25
Neodesha, 3,943—Wilson		
Wilson Co. Hospital	45	10
Newton, 9,781—Harvey		
Axtell Christian Hospital	50	28
Bethel Deaconess Hospital	45	22
Norton, 2,186—Norton		
Norton Methodist Hospital	31	18
Osborne, 1,635—Osborne		
Nye Hospital	10	4
Ottawa, 9,018—Franklin		
Ottawa Community Hospital	20	14

	Total Beds	Av. Beds in Use
Sabetha, 2,003—Nemaha		
St. Anthony Murdock Mem. Hospital	50	28
Sali[illegible]		
As[illegible]	27	23
St[illegible]	65	24
Smi[illegible]		
Fu[illegible]	10	3
Stafford, 1,752—Stafford		
Butler Hospital	16	8
Sterling, 2,060—Rice		
Sterling Hospital	20	7

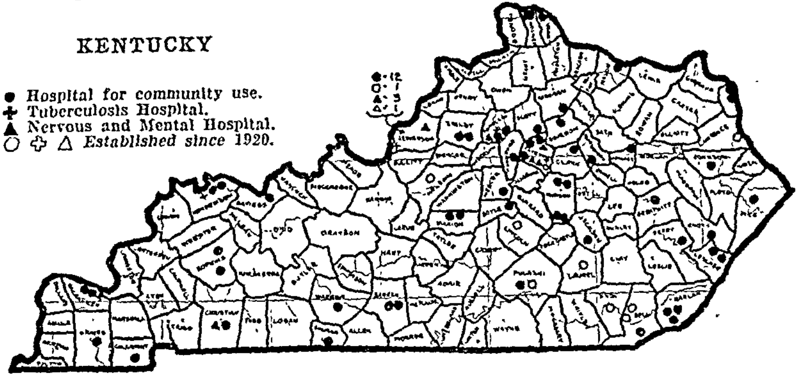
	Total *Beds*	Av. Beds *in Use*
Topeka, 55,411—Shawnee		
A.T.& S.F. Railway Hospital	100	85
Christ's Hospital	52	35
Hillcrest S[illegible] (T.B.)	45	40
Jane C. S[illegible]	48	30
[illegible]	15	10
[illegible]	75	65
[illegible]		
[illegible]	30	18
[illegible]	20	8
[illegible]		
[illegible]	15	9
[illegible]	60	45
Sedgwick Co. Tuberculosis Sanatorium	25	20
St. Francis' Hospital ★	220	172
Wesley Hospital ★	125	93
Wichita Hospital ★	135	76

KENTUCKY

	Total Beds	Av. Beds in Use
Ashland, 24,435—Boyd		
Baptist General Hospital, Inc.	66	30
King's Daughters' Hospital	42	26
Barbourville, 1,877—Knox		
The Logan Hospital	20	6
Berea, 1,640—Madison		
Berea College Hospital	50	18
Robinson Hospital	35	11
Bowling Green, 9,638—Warren		
Blackburn Hospital	12	4
Covington, 58,309—Kenton		
Booth Memorial Hospital	50	35
St. Elizabeth's Hospital ★	300	180
Cynthiana, 3,857—Harrison		
Harrison Memorial Hospital	40	15
Danville, 5,034—Boyle		
Danville & Boyle Co. Hospital	50	20
Dayton, 7,646—Campbell		
Speer's Memorial Hospital	100	58
Fleming, 887—Letcher		
Fleming Hospital	10	4
Frankfort, 9,805—Franklin		
King's Daughters' Hospital	24	15
Winnie Annett Scott Mem. Hospital	11	5
Franklin, 3,154—Simpson		
Southern Kentucky Sanatorium	50	25
Frenchburg, 270—Menifee		
Frenchburg Hospital	10	2
Georgetown, 3,903—Scott		
John Graves Ford Memorial Hospital	30	4
Glasgow, 2,559—Barren		
Maplewood Infirmary	12	8
Gray Hawk, 70—Jackson		
Mary Allen Memorial Hospital	16	3
Harlan, 2,647—Harlan		
Harlan Hospital	50	22

KENTUCKY

● *Hospital for community use.*
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ *Established since 1920.*



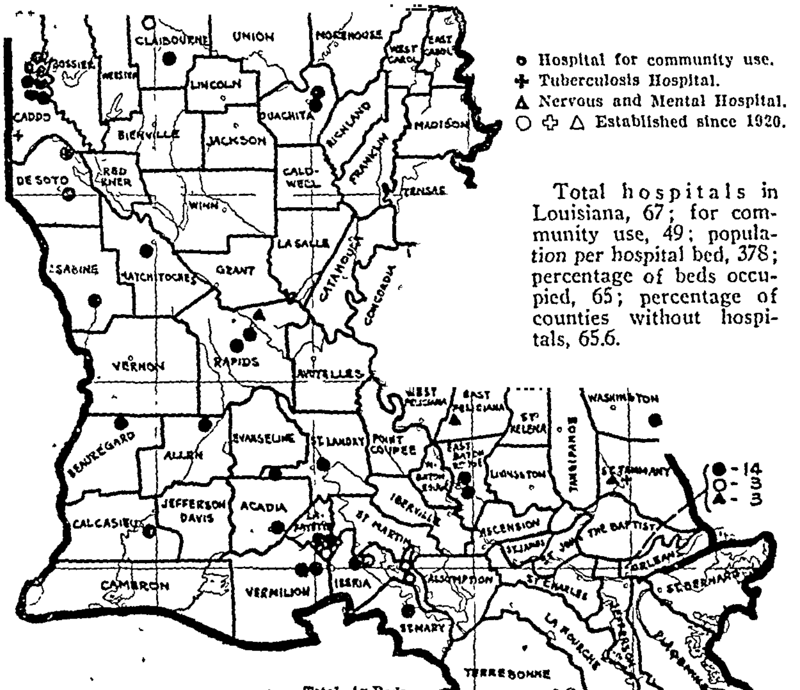
Total hospitals in Kentucky, 117; for community use, 86; population per hospital bed, 548; percentage of beds occupied, 57; percentage of counties without hospitals, 59.1.

	Total *Beds*	Av. Beds *in Use*
Harrodsburg, 3,765—Mercer		
A. D. Price Memorial Hospital	20	8
Hazard, 4,348—*Perry*		
Hazard Hospital	42	22
Henderson, 12,574—Henderson		
Henderson Hospital, Inc.	25	10
Moseley Hospital, Inc.	25	11
Hopkinsville, 9,696—Christian		
Jennie Stuart Memorial Hospital	27	14
Jackson, 1,503—Breathitt		
Bach Hospital	35	17
Jackson City Hospital	10	New
Jenkins, 4,707—Letcher		
Jenkins Hospital	50	15
Kenvir, —— —Harlan		
Black Mountain Hospital	16	4
La Grange, 1,060—Oldham		
Blaydes Private Hospital	10	New

	Total Beds	Av. Beds in Use
Lebanon, 3,239—Marion		
Boldrick Infirmary	14	6
Elizabeth's Hospital	16	4
Lexington, 46,895—Fayette		
Good Samaritan Hospital ★	125	90
High Oaks Sanatorium (N.& M.)	35	18
Julius Marks Sanatorium (T.B.)	90	56
St. Joseph's Hospital	175	135
London, 1,707—Laurel		
Pennington General Hospital	50	New
Louisville, 305,935—Jefferson		
Beechhurst Sanit. (N.& M.)	50	35
Children's Free Hospital	72	62
Jewish Hospital	64	54
John N. Norton Memorial Infirmary	100	65
Kentucky Baptist Hospital	90	76
Louisville City Hospital ★†	474	270
Louisville Neuropathic Sanat.	24	22
Maple Heights Sanatorium & Hospital	18	10
Methodist Episcopal Deaconess Hospital	76	60
Mt. St. Agnes Sanit. (N.& M.)	48	30
Pope Sanitarium	25	22
Red Cross Hospital	40	25
St. Anthony's Hospital ★	209	96
St. Joseph's Infirmary	100	75
SS. Mary & Elizabeth Hosp ★	145	120
Dr. Stokes Sanat. (N.& M.)	35	20
Susan Speed Davis Hospital	35	20
Wm. H. Emrich Hospital	14	7
Lynch, 3,050—Harlan		
Lynch Hospital	50	20
Madisonville, 4,945—Hopkins		
Madisonville Hospital	20	6
Manchester, 626—Clay		
Anderson & Ricketts Hospital	10	New
Minor Hospital	20	7
Mayfield, 6,583—Graves		
The Mayfield Hospital	30	10
Maysville, 6,107—Mason		
Hayswood Hospital	35	35
Middlesboro, 8,041—Bell		
Brosheer-Brummett Hospital	50	16
Mt. Sterling, 3,995—Montgomery		
Mary Chiles Hospital	16	5
Murray, 2,415—Calloway		
Wm. Mason Memorial Hospital	75	42
Owensboro, 22,027—Daviess		
Owensboro City Hospital	85	35
Paducah, 25,852—McCracken		
[illegible] (T.B.)	16	6
[illegible]	90	47
[illegible]	100	50
Paintsville, 1,383—Johnson		
Paintsville Hospital	30	15
Paris, 6,310—Bourbon		
Massie Memorial Hospital	44	20
Pikeville, 2,110—Pike		
Methodist Hospital of Kentucky	54	20
Pineville, 2,908—Bell		
Continental Miners' Hospital	12	5
Wilson Hospital	15	5
Princeton, 3,689—Caldwell		
Annie Barber Hospital	15	New
Richmond, 5,622—Madison		
Gibson Hospital	25	20
Pattie A. Clay Infirmary	20	12
Shelbyville, 3,760—Shelby		
King's Daughters' Hospital	35	15
Somerset, 4,672—Pulaski		
Pulaski County Hospital	18	10
Somerset General Hospital	24	12
Valley Station, 200—Jefferson		
Waverly Hill Sanat. (T.B.)	*210*	*205*
Versailles, 2,061—Woodford		
Woodford Co. Memorial Hospital	14	9
Winchester, 7,866—Clark		
Clark County Hospital	25	10
Three General Hospitals of less than 10 beds	20	5
Total for community use, 86	*4,540*	*2,613*

In Kentucky the following seventy-five counties have no hospitals for community use: Adair, Allen, Anderson, Ballard, Bath, Boone, Bracken, Breckinridge, Bullitt, Butler, Caldwell, Carlisle, Carroll, Carter, Casey, Clay, Clinton, Crittenden, Cumberland, Edmunson, Elliott, Estill, Fleming, Floyd, Fulton, Gallatin, Garrard, Grant, Grayson, Green, Greenup, Hancock, Hardin, Hart, Henry, Hickman, Jessamine, Larue, Lee, Leslie, Lewis, Livingston, Logan, Lyon, McCreary, McLean, Magoffin, Marshall, Martin, Meade, Metcalfe, Monroe, Morgan, Muhlenberg, Nicholas, Ohio, Oldham, Owen, Owsley, Pendleton, Powell, Robertson, Rockcastle, Russell, Spencer, Taylor, Todd, Trigg, Trimble, Union, Washington, Wayne, Webster, Whitley, Wolfe.

LOUISIANA



Total hospitals in Louisiana, 67; for community use, 49; population per hospital bed, 378; percentage of beds occupied, 65; percentage of counties without hospitals, 65.6.

LOUISIANA

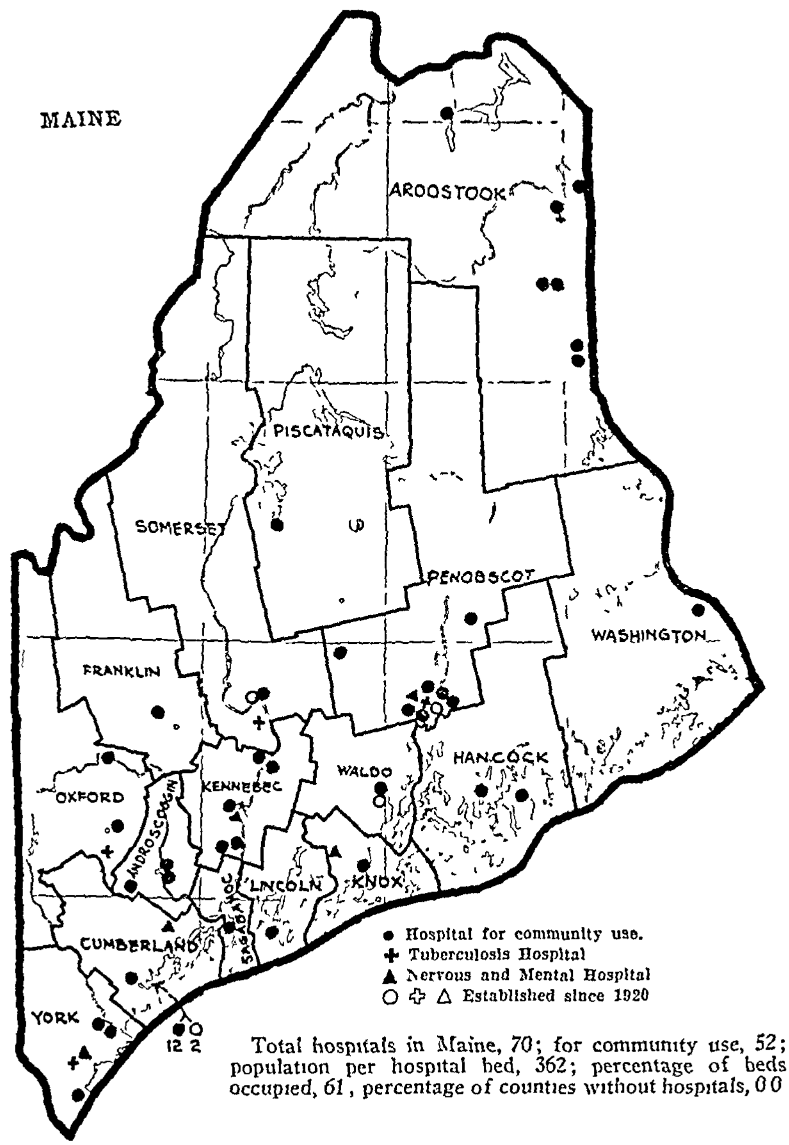
	Total Beds	Av. Beds in Use
Abbeville, 3,461—Vermilion		
La Grande Hospital	20	16
Vermilion Sanitarium	20	4
Alexandria, 20,651—Rapides		
Baptist Hospital	60	34
Baton Rouge, 27,832—E. Baton Rouge		
Baton Rouge General Hospital	30	15
Our Lady of the Lake Sanitarium	100	45
Bogalusa, 8,245—Washington		
Eliz. Sullivan Memorial Hospital	80	66
Covington, 2,942—St. Tammany		
The Dradom Tuberculosis Sanatorium	16	5
Crowley, 6,108—Acadia		
Crowley Sanitarium Co. Ltd.	16	10
De Ridder, 3,535—Beauregard		
Dr. Ridder Sanitarium	16	6
Elizabeth, 3,000—Allen		
Elizabeth Hospital	18	12
Eunice, 3,272—St. Landry		
Eunice Sanitarium	24	6
Fisher, 1,200—Sabine		
West Louisiana Sanitarium	35	10
Greenwood, 250—Caddo		
Pines Sanatorium (T.B.)	80	45
Haynesville, 903—Claiborne		
Haynesville Hospital	36	10
Homer, 3,305—Claiborne		
Homer Sanitarium	10	5
Hygeia, —— —St. Tammany		
Camp Hygeia, Orleans Anti-Tuberculosis League	50	40
Lafayette, 7,855—Lafayette		
Lafayette Sanitarium, Inc.	23	9
St. John Hospital	33	20
Lake Charles, 14,015—Calcasieu		
St. Patrick Sanitarium	75	30
Lecompte, 1,034—Rapides		
Lecompte Sanitarium	10	8
Mansfield, 2,564—De Soto		
Mansfield Sanitarium	32	20
Monroe, 14,347—Ouachita		
Riverside Sanitarium, Inc.	50	35
St. Francis' Sanitarium	125	69
Natchitoches, 3,388—Natchitoches		
Natchitoches Sanitarium	25	14
New Iberia, 6,278—Iberia		
Dauterive Sanitarium	15	8
New Orleans, 414,493—Orleans		
Baptist Hospital	218	New
City Hospital (N.& M.)	100	80
Charity Hospital of Louisiana ★	1,300	1,189
E. E. N. & T. Hospital	66	17
Flint-Goodrich Hospital	51	30
Hotel Dieu Hospital ★	269	170
Illinois Central R.R. Hospital	60	35
Leonce M. Soniat Mercy Hosp.	64	55
Louisiana Retreat (N.& M.)	240	240
New Orleans Convalescent Home	30	23
New Orleans Hospital & Dispensary for Women and Children	35	27
Presbyterian Hospital	100	67
Southern Baptist Hospital	218	New
St. Rita Surgical Infirmary	50	25
Touro Infirmary ★	366	208
Opelousas, 4,437—St. Landry		
St. Landry Sanitarium	20	15
Patterson, 2,538—St. Mary		
St. Mary's Hospital	30	22
Shreveport, 57,857—Caddo		
Highland Sanitarium, Inc.	85	51
Mercy Sanitarium (Colored)	18	2
North Louisiana Sanitarium	100	75
T. E. Schumpert Memorial Sanitarium ★	200	115
Shreveport Charity Hospital ★	218	199
Shriners Hospital for Crippled Children	55	54
Tri-State Sanitarium	75	30
Total for community use, 49	4,967	3,271

In Louisiana the following forty-two parishes have no hospitals for community use: Ascension, Assumption, Avoyelles, Bienville, Bossier, Caldwell, Cameron, Catahoula, Concordia, East Carroll, Evangeline, Franklin, Grant, Iberville, Jackson, Jefferson, Jefferson Davis, LaSalle, Lafourche, Lincoln, Livingston, Madison, Morehouse, Plaquemines, Pointe Coupee, Red River, Richland, St. Bernard, St. Charles, St. Helena, St. James, St. John the Baptist, Tangipahoa, Tensas, Terrebonne, Union, Vernon, Webster, West Baton Rouge, West Carroll, West Feliciana, Winn.

MAINE

	Total Beds	Av. Beds in Use
Auburn, 18,073—Androscoggin		
Auburn Private Hospital	10	3
Augusta, 14,625—Kennebec		
Augusta General Hospital	100	49
Bangor, 26,644—Penobscot		
The Bangor Sanatorium (T.B.)	27	20
Eastern Maine General Hosp. ★	130	103
Paine Private Hospital	22	15
Bar Harbor, 1,181—Hancock		
Bar Harbor Medical & Surgical Hospital	33	11
Bath, 17,751—Sagadahoc		
Bath City Hospital	50	30
Belfast, 5,083—Waldo		
Bradbury Memorial Hospital	21	12
Waldo Co. General Hospital	18	10
Biddeford, 18,532—York		
Trull Hospital	40	30
Webber Hospital	50	29
Brewer, 6,064—Penobscot		
Russell Private Hospital	15	10
Calais, 6,084—Washington		
Calais Hospital	52	26
Caribou, 6,018—Aroostook		
Cary Hospital	25	14

MAINE



Total hospitals in Maine, 70; for community use, 52; population per hospital bed, 362; percentage of beds occupied, 61, percentage of counties without hospitals, 0 0

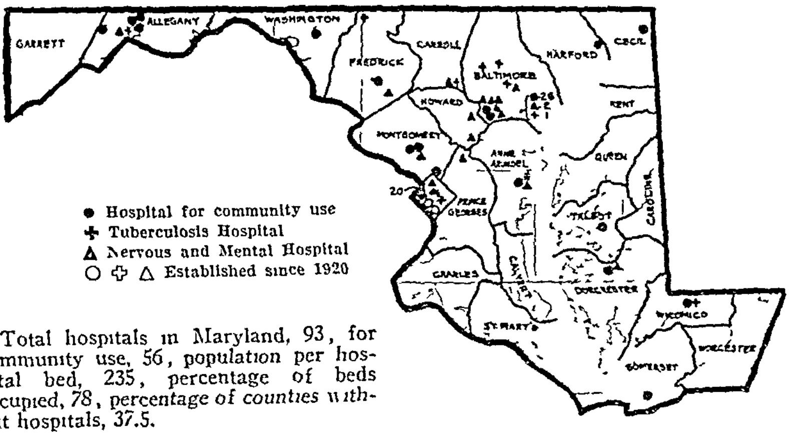
	Total Beds	Av Beds in Use
Dexter, 4,136—Penobscot		
Plummer Memorial Hospital	20	10
Dover-Foxcroft, 2,071—Piscataquis		
The Cary Hospital	12	6
Eagle Lake, 700—Aroostook		
Northern Maine General Hosp	30	15
East Parsonfield, 300—York		
Maple Crest Sanatorium (T B)	50	25
Farmington, 1,650—Franklin		
Franklin Hospital	12	8
Ft. Fairfield, 1,993—Aroostook		
Community Hospital	25	7
Gardiner, 5,475—Kennebec		
Gardiner General Hospital	23	10
Greenville Junction, 330—Piscataquis		
Charles A Dean Hospital	23	9
Houlton, 6,191—Aroostook		
Aroostook Hospital	35	19
Madigan Memorial Hospital	50	13
Lewiston, 34,932—Androscoggin		
Central Maine General Hosp ★	110	78
St Mary's General Hospital	140	80
Portland, 75,333—Cumberland		
Dr Black's Private Maternity Hospital	10	5
Children's Hospital	70	55
Dr Leighton's Maternity Hosp	14	9
Maine Eye and Ear Infirmary	90	85
Maine General Hospital ★	160	94
Portland City Hospital	85	80
Queen's Hospital	60	40
St Barnabas Hospital	50	43
State Street Hospital	50	38
Dr C P Wescott Sanatorium	14	9
Presque Isle, 3,452—Aroostook		
Presque Isle General Hospital	50	35
Rockland, 8,109—Knox		
Knox Co General Hospital	38	26
Rumford, 7,016—Oxford		
Rumford Hospital Association	32	26
Skowhegan, 5,981—Somerset		
Kennebec Valley Hospital	30	13
Somerset Hospital, Inc	*25*	*16*
South Paris, 1,793—Oxford		
The Beeches	*30*	15
Union, 1,200—Knox		
Jones Sanitarium (N & M)	*30*	25
Waterville, 14 424—Kennebec		
Elm City Hospital	20	17
Sisters Hospital	100	25
West Boothbay Harbor, —— —Lincoln		
St Andrew's Hospital	17	5
Westbrook, 9,435—*Cumberland*		
Westbrook Hospital	18	10
York Village, 1,000—York		
York Hospital	12	7
Four General Hospitals of less than 10 beds	27	9
Total for community use, 52	2,153	1,329

All counties in Maine have hospitals

MARYLAND

	Total Beds	Av Beds in Use
Annapolis, 12 633—Anne Arundel		
Annapolis Emergency Hospital	42	35
Baltimore, 796,296—Baltimore City		
Baltimore City Hosp ★ (General)	371	303
Baltimore City Hospitals (N & M)	300	318
Baltimore City Hospitals (T B)	175	82
Baltimore E E and T Charity Hospital	50	18
Bon Secours Hospital	75	24
Children's Hospital School Inc	120	88
Church Home and Infirmary ★	157	123
Colonial Hospital	78	58
Franklin Square Hospital ★	110	74
Happy Hills	20	17
Hebrew Hospital and Asylum ★	155	140
Home for Incurables	53	53
Homewood Hospital	52	30
Hosp[illegible] for Woman	100	99
How[illegible]	30	20
Jas [illegible]	60	55
John [illegible]	743	542
Mary [illegible]	198	176
Mercy Hospital ★	235	220
Mt Hope Retreat (N & M)	690	686
Presbyterian E E and T Charity Hospital	50	10
Provident Hospital & Dispensary	50	28
South Baltimore General Hosp	60	50
Southern Hospital of Baltimore	30	18
St Agnes' Hospital ★	185	129
St Joseph's Hospital ★	270	240
Sydenham Hospital	110	37
Union Memorial Hospital ★	149	123
University of Maryland Hosp ★	250	200
West Baltimore General Hospital	150	90
Cambridge, 7,467—Dorchester		
Cambridge Maryland Hospital	75	35
Catonsville, 4,560—Baltimore		
Gundry Sanitarium (N & M)	50	46
Harlem Lodge (N & M)	*36*	*18*
Pearson Home	20	8
Sieling's Sanatorium (N & M)	25	15
Crisfield, 4,116—Somerset		
Edw W McCready Memorial Hospital	34	18
Cumberland, 33,741—Allegany		
Allegany Hospital	100	70
Sylvan Retreat (N & M)	96	70
Easton, 3,442—Talbot		
Easton Emergency Hospital	50	38
Elkton, 2,660—Cecil		
Union Hospital	45	28
Forest Glen, 125—Montgomery		
Carroll Springs Sanitarium	25	15
Frederick, 12 035—Frederick		
Frederick City Hospital	80	50
Hagerstown, 31,357—Washington		
Washington Co Hospital	*106*	*70*
Havre de Grace, 4 374—Harford		
Havre de Grace Hospital	42	15

MARYLAND



Total hospitals in Maryland, 93, for community use, 56, population per hospital bed, 235, percentage of beds occupied, 78, percentage of counties without hospitals, 37.5.

	Total Beds	Av. Beds in Use
Ijamsville, 71—Frederick		
Riggs Cottage Sanitarium (N.& M.)	20	20
Laurel, 2,239—Prince Georges		
Laurel Sanitarium, Inc. (N.& M.)	75	65
Olney, —— —Montgomery		
Montgomery Co. General Hosp.	28	20
Orange Grove, (Ilchesten P.O.)—Baltimore		
St. Gabriel's Home	35	27
Relay, 2,000—Baltimore		
Relay Sanitarium (N.& M.)	46	35
Rockville, 1,145—Montgomery		
Chestnut Lodge Sanitarium (N.& M.)	25	23
Waverley Sanatorium	12	5
Salisbury, 7,502—Wicomico		
Peninsula General Hospital	94	65
Sparks, —— — Baltimore		
Maple Heights Sanat. (T.B.)	14	8
Towson, 3,500—Baltimore		
Hospital for Consumptives of Md.	130	113
Sheppard and Enoch Pratt Hosp. (N.& M.)	150	139
Total for *community use*, 56	6,531	5,102

In Maryland the following nine counties have no hospitals for community use: Calvert, Caroline, Charles, Garrett, Harford, Kent, Queen Annes, St. Marys, Worcester.

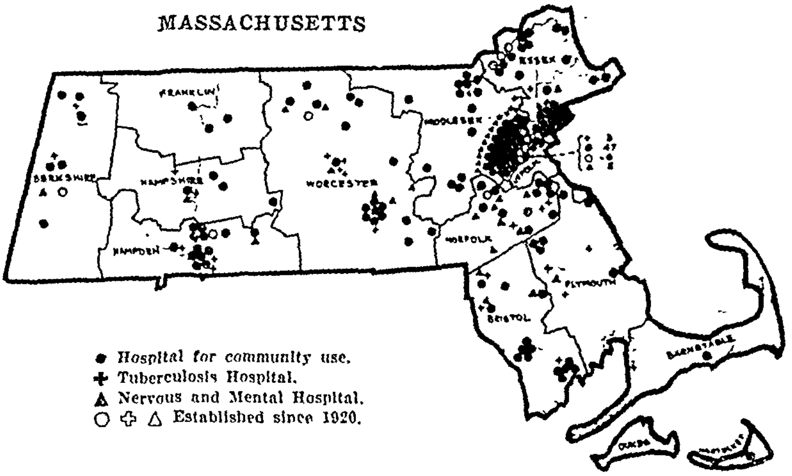
MASSACHUSETTS

	Total Beds	Av. Beds in Use
Adams, 13,525—Berkshire		
W. B. Plunkett Memorial Hosp.	35	22
Allerton, 300—Plymouth		
Dr. C. P. Sylvesters Private Hospital	12	6
Amherst, 5,112—Hampshire		
Rangeview Sanitarium	15	12
Arlington, 25,155—Middlesex		
Sym[illegible]	41	28
Dr. [illegible]	15	6
Arling[illegible]		
Ring Sanat. and Hosp. (N.& M.)	60	48
Attleboro, 20,625—Bristol		
Bristol Co. Tuberculosis Hosp.	60	53
Sturdy Memorial Hospital	50	42
Baldwinsville, 2,077—Worcester		
Hospital Cottages for Children	140	93
Beverly, 22,701—Essex		
Beverly Hospital Corp.	100	61
Boston, 781,529—Suffolk		
Adams Nervine	36	31
Bay State Hospital, Inc.	21	15
Beth Israel Hospital	50	45
Boston City Hospital ★	806	771
Boston Dispensary and Hospital	32	24
Boston Lying-in Hospital	100	65
Boston Sanatorium (T.B.)	416	350
Carney Hospital ★	200	143
Channing Home (T.B.)	22	22
Children's Hospital	195	145
Collis P. Huntington Mem. Hosp	22	18
Convalescent Home of the Boston Hospital	34	11
Dorchester Cottage Hospital	10	8
East Boston Relief Station	11	6
Eliot Hospital	27	17
Elm Hill Private Hospital	22	12
Emerson Hospital	60	30
Faulkner Hospital	54	52
Fenway Hospital, Inc.	38	30
Glenside Hospital (N.& M.)	20	18
Harley Private Hospital	62	53
Hart Private Hospital, Inc.	50	30
Haymarket Square Relief Station	34	11
House of the Good Samaritan	75	69
Infant's Hospital	65	45
MacLeod Hospital	25	12
Massachusetts E. & E. Infirmary †	209	150
Massachusetts General Hosp.★	377	314
Massachusetts Homeopathic Hospital ★	544	429
Massachusetts Women's Hospital	35	25
New England Baptist Hospital	100	61
New England Deaconess Hosp.	165	126
New England Hosp. for Women & Children ★	155	76
Palmer Memorial Hospital	75	60
Peter Bent Brigham Hosp.★ †	223	199
Prendergast Preventorium	21	15
Reede Hospital	30	20
Riverbank Hospital	35	10
Robt. Breck Brigham Hospital	110	90
South Dept. for Infectious Diseases of Boston City Hospital	338	225
St. Elizabeth's Hospital ★	200	194
St. Luke's Home for Convalescents	25	16
St. Margaret's Hospital	30	15
St. Mary's Infant Asylum & Lying-In Hospital	150	100
Dr. Taylor's Private Hospital (N.& M.)	18	6
Vincent Memorial Hospital	22	16
Washingtonian Home	50	20

	Total Beds	Av. Beds in Use
Brockton, 65,731—Plymouth		
Brockton Hospital ★	127	93
Goddard Hospital, Inc.	65	41
Moore Hospital	25	15
Brookline, 42,633—Norfolk		
Board of Health Hospital	60	20
Bournewood Hospital (N.& M.)	18	16
Brooks Hospital	50	22
Corey Hill Hospital	34	34
Free Hospital for Women	97	52
Summit Hospital	35	30
Trumbull Hospital	45	30
Cambridge, 120,053—Middlesex		
Cambridge City Hospital	114	89
Cambridge Hospital ★	125	100
Cambridge Relief Hospital	35	28
Cambridge Tuberculosis Hospital	125	42
Charlesgate Hospital	65	50
Chester Hospital, Inc.	45	35
Middlesex Charitable Infirmaries	50	29
Chelsea, 47,505—Suffolk		
Chelsea Memorial Hospital	60	60
Chicopee, 41,888—Hampden		
Health Department Hospital (T.B.)	28	12
Chicopee Falls, 11,500—Hampden		
Bellevue Hospital, Inc.	25	15
Clinton, 14,180—Worcester		
Clinton Hospital	85	35
Concord, 6,461—Middlesex		
Emerson Hospital in Concord	27	18
Dartmouth, —— —Bristol		
Crary Hospital	25	16
East Bridgewater, 3,363—Plymouth		
The Millet Sanatorium (N.& M. & T.B.)	40	15

	Total Beds	Av. Beds in Use
Holyoke, 60,892—Hampden		
Carpenter Isolation Hospital	20	4
Holyoke City Hospital	134	90
Holyoke Sanatorium (T.B.)	56	39
Providence Hospital	115	95
Ipswich, 5,777—Essex		
Benj. Stickney Cable Memorial Hospital	20	16
Lawrence, 95,136—Essex		
Clover Hill Hospital	20	11
Lawrence General Hospital ★	130	84
Lawrence Municipal Hospital	70	60
South Lawrence Hospital	10	5
Lee, 4,085—Berkshire		
Mountain View Farm for Convalescents	18	9
Leominster, 22,104—Worcester		
Leominster Hospital	50	30
Lowell, 11[illegible]—Middlesex		
[illegible]	90	45
Lowell Corporation Hospital ★	100	73
Lowell General Hospital ★	120	78
Lowell Tuberculosis Hospital	54	49
Shaw Hospital	16	7
St. John's Hospital ★	124	73
Ludlow, 7,470—Hampden		
Ludlow Hospital	25	13
Lynn, 103,147—Essex		
Lynn Hospital ★	136	82
Union Hospital, Inc.	65	41
Malden, 51,789—Middlesex		
Glenrock Hospital (T.B.)	100	75
Malden Hospital	100	83
Marblehead, 7,324—Essex		
Children's Island Sanitarium	98	76
Devereux Mansion, Inc.	45	23

MASSACHUSETTS



Total hospitals in Massachusetts, 305; for community, use, 221; population per hospital bed, 250; percentage of beds occupied, 70; percentage of counties without hospitals, 28.9.

	Total Beds	Av. Beds in Use
Everett, 42,072—Middlesex		
Everett Cottage Hospital	40	25
Fall River, 129,662—Bristol		
Fall River General Hospital ★	126	101
Fall River General Hospital (T.B.)	108	63
St. Ann's Hospital	80	40
Truesdale Hospital, Inc.	88	78
Union Hospital ★	150	114
Fitchburg, 44,034—Worcester		
Burbank Hospital ★	115	91
Lucy Helen Memorial Hospital	14	7
Forest Hills, (Boston, P.O.)—Suffolk		
Forest Hills Hospital, Inc.	125	37
Framingham, 21,078—Middlesex		
Framingham Hospital	60	48
Union Avenue Hospital, Inc.	65	52
Woodside Cottages	15	8
Gardner, 18,770—Worcester		
Henry Heywood Memorial Hospital	84	51
Gloucester, 23,407—Essex		
Addison Gilbert Hospital	50	17
Great Barrington, 6,315—Berkshire		
Fairview Hospital	20	13
Greenfield, 15,246—Franklin		
Franklin Co. Public Hospital	70	43
Groton, 2,155—Middlesex		
Groton General Hospital	15	9
Haverhill, 49,084—Essex		
General Stephen Henry Gale Hospital	105	65
Hale Hospital	65	40
Haverhill City Hospital	40	20
Haydenville, 1,245—Hampshire		
Hampshire Co. Sanat. (T.B.)	70	51
Holden, 2,970—Worcester		
Holden District Hospital, Inc.	25	20

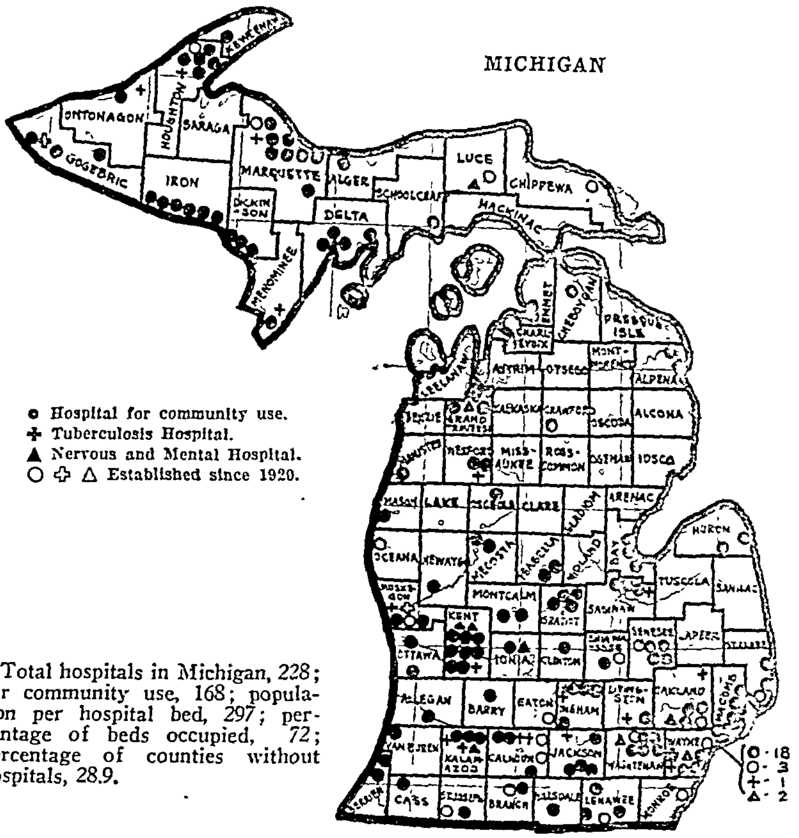
	Total Beds	Av. Beds in Use
Marlboro, 16,236—Middlesex		
Marlboro Hospital	58	30
M[illegible]		
[illegible]	25	14
[illegible]	58	26
Medford Hospital	25	10
Melrose, 20,148—Middlesex		
Melrose Hospital	59	59
New England Sanitarium & Hospital	150	65
Melrose Highlands, 4,000—Middlesex		
Dr. Reeves Nervine (N.& M.)	15	10
Methuen, 20,660—Essex		
Mary E. Barr Sanitarium	25	18
Middleboro, 8,214—Plymouth		
St. Luke's Hospital	18	10
Middleton, 1,195—Essex		
Essex Sanatorium (T.B.)	208	169
Milford, 14,781—Worcester		
Milford Hospital	45	32
Milton, 9,382—Norfolk		
Milton Hospital	28	21
Montague City, —— —Franklin		
Farren Memorial Hospital	50	40
Nantucket, 2,962—Nantucket		
Nantucket Cottage Hospital	18	10
Natick, 12,816—Middlesex		
Leonard Morse Hospital	40	30
Needham, 7,012—Norfolk		
Clover Hospital	11	5
New Bedford, 120,494—Bristol		
Acushnet Sanitarium	21	12
Pine Lawn Sanitarium	20	10
Sassaquim Sanatorium (T.B.)	116	104
St. Luke's Hospital ★	255	172
Union Hospital	40	32
Newburyport, 15,656—Essex		
Ann Jaques Hospital	67	45
Newburyport Homeopathic Hosp.	28	18

	Total Beds	Av. Beds in Use
Newton, 53,364—Middlesex		
Belger Hospital	14	10
Dr. Mellus' Private Hospital (N.& M.)	20	13
Newton Hospital ★	177	113
North Adams, 22,717—Berkshire		
North Adams Hospital	188	50
Dr. Vrooman's Sanitarium	25	12
Northampton, 24,000—Hampshire		
Cooley Dickinson Hospital	92	72
North Dighton, —— — Bristol		
Mt. Hope Hospital	15	4
Norwood, 14,183—Norfolk		
Norwood Hospital	35	33
Palmer, 9,896—Hampden		
Wing Memorial Hospital	20	15
Peabody, 20,107—Essex		
Josiah B. Thomas Hospital	40	34
Pittsfield, 47,241—Berkshire		
Hillcrest Hospital	37	33
House of Mercy Hospital ★	175	80
Plymouth, 13,178—Plymouth		
Jordan Hospital	66	33
Pocasset, 200—Barnstable		
Barnstable County Sanat. (T.B.)	32	24
Quincy, 60,131—Norfolk		
Quincy City Hospital	70	57
Whitehouse Maternity Hospital	12	8
Rutland, 1,225—Worcester		
Central New England Sanatorium (T.B.)	55	34
Summit Cottage	10	10
Wachusett Cottage (T.B.)	15	12
Salem, 42,821—Essex		
Health Dept. Hospital for Contagious Diseases	60	25
North Shore Babies Hospital	40	21
Salem Hospital ★	112	100
Scituate, 1,129—Plymouth		
Children's Sunlight Hospital	58	30
Sharon, 2,310—Norfolk		
Sharon Sanatorium (T.B.)	45	36
Somerville, 99,206—Middlesex		
Chandler Street Hospital	15	5
City of Somerville Contagious Disease Hospital	80	11
Somerville Hospital	65	51
South Braintree, 4,100—Norfolk		
Norfolk Co. Hospital	90	87
South Dartmouth, 1,218—Bristol		
Sol-e-Mar Hospital	52	37
South Hanson, 422—Plymouth		
Plymouth Co. Hospital (T.B.)	130	91
South Weymouth, 4,000—Norfolk		
Weymouth Hospital	37	15
Springfield, 142,224—Hampden		
Buscall's Nursing Home	25	19
Children's Prevent. of Hampden Co. Tuberculosis Ass'n.	120	116
Health Department Hosp. (T.B.)	75	35
Mercy Hospital ★	153	129
Shriners' Hospital for Crippled Children	50	New
Springfield Hospital ★	188	143
Wesson Maternity Hospital	52	43
Wesson Memorial Hospital	100	75
Stockbridge, 1,779—Berkshire		
Austen Riggs Foundation, Inc. (N.& M.)	35	28
Taunton, 39,286—Bristol		
Morton Hospital	63	37
Waltham, 34,926—Middlesex		
Waltham Baby Hospital	25	7
Waltham Hospital ★	104	90
Ware, 8,774—Hampshire		
Mary Lane Hospital	32	17
Waverley, 2,331—Middlesex		
McLean Hospital (N.& M.)	230	223
Wellesley, 5,413—Norfolk		
Cedar Lodge	12	6
Channing Sanitarium (N.& M.)	33	30
Schofield Hospital (N.& M.)	10	9
Wiswall Sanat., Inc. (N.& M.)	35	28
Wellesley Hills, 2,588—Norfolk		
Convalescent Home of Children's Hospital	75	52
Westfield, 19,061—Hampden		
Noble Hospital	63	43
West Medford, 4,300—Middlesex		
The Peckham Private Hospital	12	7
West Newton, —— — Middlesex		
Woodlawn Sanitarium	12	10
Westwood, 1,266—Norfolk		
Westwood Lodge (N.& M.)	10	8
Whitinsville, 5,600—Worcester		
Whitinsville Hospital	15	12
Winchendon, 5,901—Worcester		
Millers River Hospital	25	15
Winchester, 11,565—Middlesex		
Winchester Hospital	40	30
Winthrop, 16,155—Suffolk		
Winthrop Community Hospital	34	18
Woburn, 18,354—Middlesex		
Charles Choate Memorial Hosp.	40	30
Worcester, 192,242—Worcester		
Belmont Hospital (T.B.)	55	34
Fairlawn Hospital, Inc.	46	10
Harvard Private Hospital	16	14
Herbert Hall Hospital (N.& M.)	30	25
Maple Hall Sanitarium	19	10
The Memorial Hospital ★	200	153
St. Vincent Hospital ★	225	190
Worcester City Hospital ★	400	323
Worcester Hahnemann Hospital	82	30
Three General Hospitals of less than 10 beds	25	12
Total for community use, 221	16,606	11,773

In Massachusetts the following county has no hospital for community use: Dukes.

MICHIGAN

	Total Beds	Av. Beds in Use
Adrian, 12,508—Lenawee		
Emma L. Bixby Hospital	22	18
Albion, 8,354—Calhoun		
Jas. W. Sheldon Mem. Hospital	40	20
Allegan, 3,637—Allegan		
The John Robinson Hospital	20	12
Alma, 7,542—Gratiot		
Brainerd Hospital	21	4
Carney Private Hospital	20	8
Coldwater, 6,114—Branch		
Wade Memorial Hospital	25	8
Crystal Falls, 3,394—Iron		
Crystal Falls General Hospital	15	9
St. Erik's Hospital	12	5
Dearborn, 2,470—Wayne		
St. Joseph's Retreat (N.& M.)	400	375
Detroit, 1,242,044—Wayne		
Children's Hosp. of Michigan †	150	138
City of [illegible]	360	355
Delray [illegible]	95	60
Detroit [illegible]	75	41
Detroit Tuberculosis Sanatorium	145	133
Dunbar Memorial Hospital	45	30
Evangelical Deaconess Hospital	115	108
Fenwood Hospital	10	2
The Grace Hospital ★	329	272
Harper Hospital ★	460	373
Henry Ford Hospital ★	500	292
Herman Kiefer Hospital	700	547
Jefferson Diagnostic Hospital †	50	45
Lincoln Hospital	25	20
Michigan Mutual Hospital	40	28
Noble Sanatorium (N.& M.)	30	25
Pennsylvania Ave. Sanitarium (N.& M.)	14	10



MICHIGAN

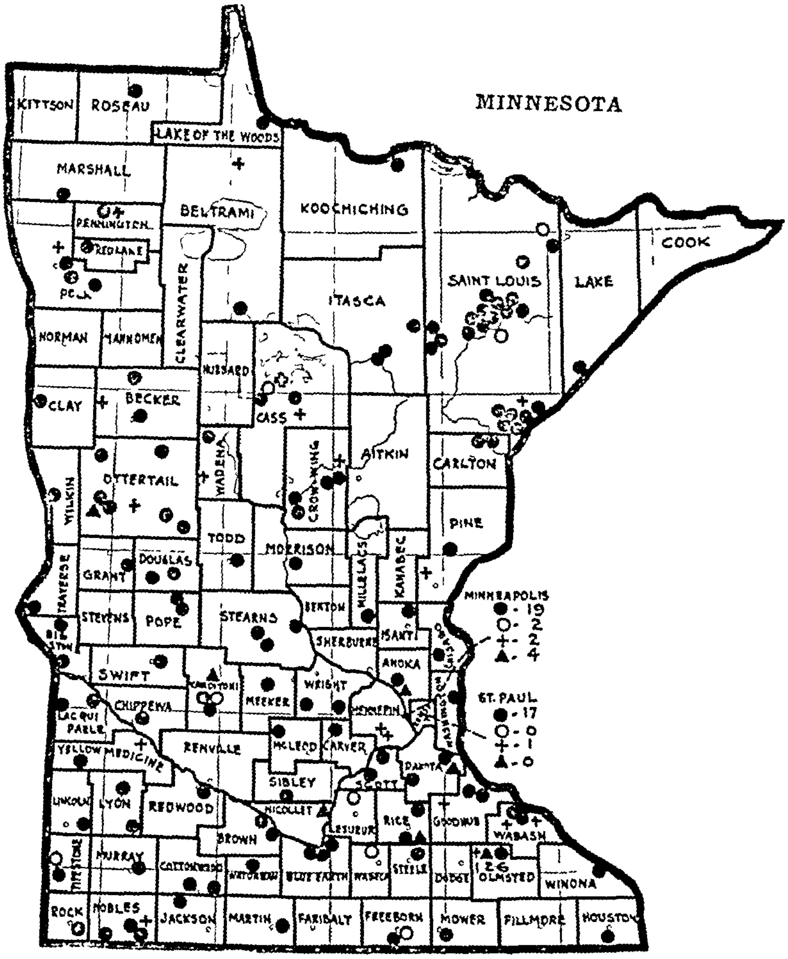
● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Michigan, 228; for community use, 168; population per hospital bed, 297; percentage of beds occupied, 72; percentage of counties without hospitals, 28.9.

	Total Beds	Av. Beds in Use
Alpena, 11,101—Alpena		
Donald McRae Hospital	20	9
Ann Arbor, 22,178—Washtenaw		
The Cowie Hospital	12	9
St. Joseph's Mercy Hospital	180	150
University Hospital ★	520	515
Washtenaw Private Hospital	16	6
Bad Axe, 2,140—Huron		
Hubbard Memorial Hospital	30	21
Battle Creek, 42,336—Calhoun		
Battle Creek Sanitarium ★	1,000	602
Calhoun Co. Public Hosp. (T.B.)	50	36
Maple Street Hospital	18	9
Nichols Memorial Hospital	100	63
Bay City, 48,907—Bay		
Bay City General Hospital	30	18
Mercy Hospital	120	59
Samaritan Hospital	30	15
Benton Harbor, 13,959—Berrien		
Benton Harbor Hospital	40	24
Big Rapids, 4,558—Mecosta		
Big Rapids General Hospital	20	10
Cadillac, 9,734—Wexford		
Mercy Hospital	50	27
Wexford Co. Hospital	25	18
Calumet, 25,991—Houghton		
Calumet & Hecla Hospital	25	15
Charlevoix, 2,218—Charlevoix		
Charlevoix Hospital	26	6
Cheboygan, 5,642—Cheboygan		
Cayley Hospital	10	5
Providence Hospital ★	275	250
St. Joseph's Mercy Hospital	150	150
St. Mary's Hospital ★	300	200
William Booth Memorial Hosp.	19	10
Woman's Hospital	108	65
Dowagiac, 5,440—Cass		
The Lee Sanitarium	25	18
Durand, 2,672—Shiawassee		
Durand Hospital	10	6
East Grand Rapids, 800—Kent		
Reed's Lake Sanitarium	30	20
Eaton Rapids, 2,379—Eaton		
Harriet Chapman Hospital, Inc.	20	8
Eloise, 700—Wayne		
Eloise Hospital for Mental Diseases	1,463	1,204
Eloise Infirmary	245	245
Escanaba, 13,103—Delta		
Laing Hospital	25	8
St. Francis Hospital	85	40
Farmington, 853—Oakland		
Convalescent Home	145	115
Flint, 130,316—Genesee		
Hurley Hospital ★	135	91
St. Joseph Hospital	40	40
The Women's Hospital	30	23
Fremont, 2,180—Newaygo		
Gerber Memorial Hospital	10	5
Goodrich, 300—Genesee		
Goodrich General Hospital	24	16

	Total Beds	Av. Beds in Use
Grand Haven, 7,224—Ottawa		
Elizabeth Hatton Memorial Hospital	20	9
Grand Rapids, 153,698—Kent		
Blodgett Memorial Hospital ★	134	109
Butterworth Hospital ★	220	197
Christian Psychopathic Hospital	110	105
Grand Rapids Tuberculosis Sanatorium	125	100
Kent Co. Detention Hospital (N.& M.)	18	7
Municipal Isolation Hospital	80	24
St. Mary's Hospital ★	115	99
Grayling, 2,450—Crawford		
Mercy Hospital	30	8
Greenville, 4,304—Montcalm		
United Memorial Hospital	15	5
Grosse Pointe Farms (Grosse Pointe P.O.), 2,084—Wayne		
Cottage Hospital	15	8
Hancock, 7,527—Houghton		
St. Joseph's Hospital	60	37
Harbor Beach, 1,928—Huron		
Harbor Beach Hospital	20	8
Hart, 1,590—Oceana		
Oceana Hospital	10	6
Hastings, 5,132—Barry		
Pennock Hospital	32	30
Highland Park, 72,289—Wayne		
Highland Park General Hosp ★	133	114
Hillsdale, 5,476—Hillsdale		
Hillsdale Hospital	18	9
Holland, 13,140—Ottawa		
Holland Hospital	15	13
Houghton, 4,456—Houghton		
Houghton Co. Tuberculosis Sanatorium	55	40
Iron Mountain, 8,251—Dickinson		
Iron Mountain General Hospital	33	25
Iron River, 4,295—Iron		
Iron River Hospital	12	5
Lakeside Hospital	15	2
Ironwood, 17,391—Gogebic		
Grand View Hospital (T.B.)	85	45
Twin City Hospital	20	15
Ishpeming, 10,500—Marquette		
Finnish Hospital	35	6
Ishpeming Hospital	33	20
Jackson, 57,972—Jackson		
W. A. Foote Memorial Hosp.★	125	76
Jackson Co. Contagious Hospital	40	16
Jackson Tuberculosis Hospital	21	18
Mercy Hospital	50	41
Kalamazoo, 53,613—Kalamazoo		
Borgess Hospital	103	74
Bronson Methodist Hospital	50	49
Fairmont Hospital (T.B.)	128	58
Lake Linden, 2,182—Houghton		
Lake Superior General Hospital	12	6
Lakeview, 886—Montcalm		
Kelsey Hospital	11	6
Lansing, 70,753—Ingham		
Ingham Sanitarium (T.B.)	62	40
Lansing City Hospital	40	8
Edw. W. Sparrow Hospital	84	57
St. Lawrence Hospital	125	50
Laurium, 6,696—Houghton		
Calumet Memorial Hospital	20	16
Ludington, 8,810—Mason		
Paulina Sterns' Hospital	25	12
Manistee, 9,698—Manistee		
Mercy Hospital and Sanitarium	60	24
Marquette, 13,406—Marquette		
Morgan Heights Tuberculosis Sanatorium	32	18
St. Luke's Hospital	52	39
St. Mary's Hospital	75	40
Marshall, 4,270—Calhoun		
Oak Lawn Hospital	12	12
Menominee, 8,907—Menominee		
St. Joseph's Hospital	75	57
Mohawk, 1,000—Keweenaw		
Mohawk Mine Hospital	20	7
Monroe, 14,224—Monroe		
Monroe Hospital	30	20
Mt. Clemens, 9,488—Macomb		
St. Joseph's Sanitarium	85	40
Munising, 5,037—Alger		
Munising Hospital	22	16
Muskegon, 43,088—Muskegon		
Hackley Hospital ★	115	72
Mercy Hospital ★	102	60
Muskegon County Tuberculosis Sanitarium	51	42
Negaunee, 7,419—Marquette		
Negaunee Hospital	18	9
Dr. Robbins' Hospital	18	7
Newberry, 2,172—Luce		
Perry-Spinks Hospital	15	10
Northville, 1,738—Wayne		
East Lawn Sanatorium (T.B.)	55	45
Spring Hills Sanatorium (T.B.)	402	376
Norway, 4,533—Dickinson		
Penn Hospital	20	7
Ontonagon, 1,406—Ontonagon		
Ontonagon Co. Tuberculosis Sanatorium	15	4
Ontonagon Hospital	12	7
Oshtemo, —— —Kalamazoo		
Pine Crest Sanatorium (T.B.)	40	35
Owosso, 14,236—Shiawassee		
Memorial Hospital	58	48
Petoskey, 5,064—Emmet		
Lockwood Hospital	25	18
Petoskey Hospital	40	24
Pinckney, 384—Livingston		
Pinckney Sanitarium	10	6
Pompeii, 300—Gratiot		
Pompeii Hospital	12	10
Pontiac, 47,455—Oakland		
Franklin Road Contagious Hosp.	25	7
Oakland Ave. Contagious Hosp.	42	20
Oakland County Tuberculosis Sanatorium	23	16
Pontiac City Hospital	65	36
Pt. Huron, 29,954—St. Clair		
Emergency Hospital	35	10
Pt. Huron Hospital	50	33
Powers, 249—Menominee		
Delta-Menominee Co. Sanatorium (T.B.)	80	64
Reed City, 1,803—Osceola		
Reed City Hospital	10	2
Saginaw, 72,100—Saginaw		
Saginaw Co. Tuberculosis Hosp.	25	20
Saginaw General Hospital ★	140	74
St. Mary's Hospital	78	55
Woman's Hospital	50	29
Sault Ste. Marie, 12,096—Chippewa		
Chippewa Co. Memorial Hosp.	53	25
South Haven, 3,829—Van Buren		
City Hospital	14	9
St. Johns, 3,925—Clinton		
St. Johns Hospital	16	11
St. Joseph, 7,251—Berrien		
St. Joseph Sanitarium	32	20
St. Louis, 3,036—Gratiot		
Park Hotel, Magnetic Mineral Springs and Sanitarium	50	30
Stambaugh, 2,263—Iron		
Stambaugh Hospital	12	6
Sturgis, 5,995—St. Joseph		
Sturgis Memorial Hospital	32	25
Three Rivers, 5,209—St. Joseph		
City Hospital	18	7
Trimountain, 2,500—Houghton		
Copper Range Hospital	25	13
Vicksburg, 1,946—Kalamazoo		
Franklin Memorial Hospital	10	6
Wakefield, 4,151—Gogebic		
Wakefield Hospital	11	5
Wyandotte, 24,471—Wayne		
John F. Eilbert Memorial Hosp.	20	11
Wyandotte Hospital	53	New
Ypsilanti, 7,413—Washtenaw		
Beyer Memorial Hospital	25	19
Nine General Hospitals of less than 10 beds	64	37
Total for community use, 168	13,947	10,177

In Michigan the following twenty-four counties have no hospitals for community use: Alcona, Antrim, Arenac, Baraga, Benzie, Clare, Gladwin, Iosco, Kalkaska, Keweenaw, Lake, Lapeer, Leelanau, Mackinac, Midland, Missaukee, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, Roscommon, Sanilac, Tuscola.



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✣ △ Established since 1920.

Total hospitals in Minnesota, 232; for community use, 170; population per hospital bed, 228; percentage of beds occupied, 66; percentage of counties without hospitals, 17.2.

MINNESOTA

	Total Beds	Av Beds in Use
Albert Lea, 8,056—Freeborn		
City and County Hospital	70	30
Alexandria, 3,399—Douglas		
St. Luke's Hospital	12	6
Anoka, 4,289—Anoka		
Dr. Kline's Sanatorium	36	20
Austin, 11,906—Mower		
St. Olaf Lutheran Hospital	52	33
Barrett, 358—Grant		
Powers Hospital	10	5
Battle Lake, 628—Otter Tail		
Otter Tail County Sanatorium (T.B.)	50	44

	Total Beds	Av. Beds in Use
Be[illegible]		
[illegible]	50	22
Be[illegible]		
[illegible]	18	8
Biwabik, 2,024—St. Louis		
Biwabik Hospital	12	5
Braham, 511—Isanti		
Braham Hospital	15	7
Brainerd, 9,591—Crow Wing		
Northwestern Medical & Surgical Ass'n	35	14
St. Joseph's Hospital	50	30
Breckenridge, 2,401—Wilkin		
St. Francis Hospital	50	25
Buhl, 2,007—St. Louis		
Shaw Hospital	15	2
Caledonia, 1,570—Houston		
Caledonia Hospital	25	7
Canby, 1,754—Yellow Medicine		
John Swenson Memorial Hosp.	18	7
Cannon Falls, 1,315—Goodhue		
Mineral Springs Sanatorium (T.B.)	35	35
Chisholm, 9,039—St. Louis		
Rood Hospital	15	8
Cloquet, 5,127—Carlton		
Raiter Hospital	20	12
Coleraine, 1,300—Itasca		
Coleraine Hospital	18	4
Crookston, 6,825—Polk		
Bethesda Hospital	45	22
St. Vincent's Hospital	44	20
Sunny[illegible]	60	45
Crosby, [illegible]		
Cuyun[illegible]	15	6
Dawson, 1,511—Lac qui Parle		
Dawson Surgical Hospital	25	15
Deer Wood, 532—Crow Wing		
Deer Wood Sanatorium (T.B.)	25	25
Duluth, 110,502—St. Louis		
Duluth Hospital	20	15
Morgan Park Hospital	36	12
St. Luke's Hospital ★	233	85
St. Mary's Hospital ★	250	241
Ellsworth, 667—Nobles		
Ellsworth Hospital	10	3
Ely, 4,902—St. Louis		
Shipman Hospital	20	6
Eveleth, 7,205—St. Louis		
More [illegible]	30	19
Fairmont [illegible]		
Fairmo[illegible]	12	5
Faribault, 12,272—Rice		
St. Lucas Deaconess Hospital	50	38
Fergus Falls, 7,581—Otter Tail		
St. Luke's Hospital	50	33
Geo. B. Wright Memorial Hosp.	39	25
Frazee, 1,277—Becker		
Frazee Hospital	10	5
Glenwood, 2,187—Pope		
Glenwood Hospital	10	4
Graceville, 1,022—Big Stone		
Western Minnesota Hospital	34	19
Grand Rapids, 2,914—Itasca		
Hursh Hospital	13	9
Itasca Hospital	30	18
Granite Falls, —— —Yellow Medicine		
Riverside Sanatorium (T.B.)	50	48
Hastings, 4,571—Dakota		
Latto Hospital	21	10
Heron Lake, 922—Jackson		
Southwestern Minnesota Hosp.	12	5
[illegible]		
[illegible]	25	12
[illegible]	45	22
[illegible]		
Hutchinson Community Hospital	21	9
International Falls, 3,448—Koochiching		
[illegible]	19	10
[illegible]	50	23
[illegible]		
Lake City Hospital	24	15
Lake Park, 700—Becker		
Sand Beach Sanatorium (T.B.)	45	35
Litchfield, 2,790—Meeker		
Litchfield Hospital	30	15
Little Falls, 5,500—Morrison		
St. Gabriel's Hospital	50	25
Long Prairie, 1,346—Todd		
Long Prairie Hospital	10	2
Luverne, 2,540—Rock		
Luverne Hospital	15	5
Madison, 1,838—Lac qui Parle		
Ebenezer Hospital	20	8
Mankato, 13,659—Blue Earth		
Immanuel Lutheran Hospital	65	39
St. Joseph's Hospital	60	50
Marshall, 3,092—Lyon		
Marshall Hospital	25	10
Minneapolis, 425,435—Hennepin		
Abbott Hospital ★	100	72
Asbury Hospital ★	151	75
Camden Park Hospital	12	9
Eitel Hospital	100	86
Fairview Hospital ★	150	120
Hill Crest Hospital	64	40
Lutheran Deaconess Hospital	150	67
Lymanhurst Hospital (T.B.)	19	16
Maternity Hospital, Inc.	47	43
Minneapolis General Hospital ★	673	393
Minneapolis Sanitarium (N.& M.)	12	8
Minnesota Sanitarium (N.& M.)	20	15
Northwestern Hospital ★	110	88
Parkview Sanatorium	130	120
Rest Hospital (N.& M.)	19	15
Shriners Hospital for Crippled Children	62	54
Southside Sanitarium (N.& M.)	18	12
St. Andrew's Hospital	32	21
St. Barnabas Hospital ★	175	101
St. Mary's Hospital ★	225	135
Swedish Hospital ★	215	190
Thomas Tubercular Hospital	65	59
University Hospital ★	183	162
Montevideo, 4,419—Chippewa		
Montevideo Hospital	25	18
Montrose, 268—Wright		
Montrose Hospital	12	5
Moorhead, 5,720—Clay		
St. Ansgars Hospital	50	25
Mountain Lake, 1,309—Cottonwood		
Bethel Deaconess Hospital	20	12
New Prague, 1,540—Le Sueur		
New Prague Community Hosp.	15	6
New Ulm, 6,745—Brown		
Union Hospital	35	22
Nopeming, —— — St. Louis		
Nopeming Sanatorium (T.B.)	210	199
Northfield, 4,023—Rice		
Northfield Hospital	15	3
Oak Terrace, —— —Hennepin		
Glen Lake Sanatorium (T.B.)	601	365
Ortonville, 1,774—Big Stone		
Ortonville Evangelical Hospital	20	16
Owatonna, 7,252—Steele		
Owatonna City Hospital	21	14
Paynesville, 1,060—Stearns		
Pilon Hospital	20	4
Pelican Rapids, 1,156—Otter Tail		
Dr. Boysen's Hospital	12	3
Perham, 1,370—Otter Tail		
St. James Hospital	25	12
Pine River, 442—Cass		
Holman Hospital	10	2
Pipestone, 3,325—Pipestone		
Ashton Memorial Hospital	50	12
Pokegama, —— —Pine		
Pokegama Sanat. Inc. (T.B.)	56	34
Princeton, 1,685—Mille Lacs		
Northwestern Hospital, Inc.	35	15
Proctor, 936—St. Louis		
Missabe Hospital	20	12
Puposky, 75—Beltrami		
Lake Julia Tuberculosis Sanatorium	48	43
Red Wing, 8,637—Goodhue		
Red Wing Hospital	35	19
St. John's Hospital	75	37
Redwood Falls, 3,421—Redwood		
Redwood Falls Hospital	15	10
Rochester, 17,050—Olmsted		
Alfred Convalescent Hospital	50	25
Cascade Sanitarium	18	12
Colonial Hospital †	250	214
The Damon Hospital (N.& M.) †	60	44
Kahler Hospital †	208	135
The Samaritan Hospital, Inc.	120	50
St. Mary's Hospital †	515	406
Worrell Hospital and Annex †	162	125
Roseau, 1,012—Roseau		
Budd Hospital	15	8
Slayton, 1,045—Murray		
Home Hospital	27	14
Soudan, 20—St. Louis		
Soudan Hospital	12	6
Spooner, 571—Lake of the Woods		
Spooner Hospital	10	4
St. Cloud, 18,860—Stearns		
St. Raphael's Hospital	75	71
St. Paul, 246,001—Ramsey		
Ancker Hospital ★	850	609
Bethesda Hospital ★	108	79
Chas. T. Miller Hospital ★	216	119
Children's Preventorium of Ramsey County (T.B.)	75	72
Dale Street Infirmary	76	10
[illegible]	40	20
[illegible]	250	205
[illegible]	20	15
[illegible]	125	104
[illegible]	160	130
Mrs. Robbins Rest Home	12	10
St. John's Hospital	95	65
St. Joseph's Hospital ★	224	169
St. Luke's Hospital ★	156	113
St. Paul Hospital	92	68
Starbuck, 824—Pope		
Minnewaska Hospital	16	6
Stillwater, 7,735—Washington		
Lakeview Memorial Hospital	36	22
Thief River Falls, 4,685—Pennington		
Oakland Park Sanat. (T.B.)	32	31
Physicians Hospital	24	6
Tracy, 2,463—Lyon		
Tracy Hospital	11	8
Two Harbors, 4,546—Lake		
Burns & Christensen Hospital	36	21
Tyler, 858—Lincoln		
Tyler Hospital Ass'n	18	8
Virginia, 16,030—St. Louis		
Lenont Hospital	20	15
McIntyre Hospital	25	15
Wabasha, 2,622—Wabasha		
Buena Vista Sanat. (T.B.)	24	23
St. Elizabeth's Hospital	50	22
Wadena, 1,620—Wadena		
Fair Oaks Lodge Sanat. (T.B.)	30	25
Wesley Hospital	52	25
Walker, 785—Cass		
Walker Hospital	25	20
Warren, 1,772—Marshall		
Warren Hospital	46	24
Waseca, 3,908—Waseca		
Waseca Memorial Hospital	20	10
Watertown, 534—Carver		
Cottage Hospital	10	4
Wheaton, 1,337—Traverse		
Wheaton Hospital	12	7
Willmar, 5,892—Kandiyohi		
Davison Hospital	12	3
Union Clinic Hospital	18	10
Willmar Hospital	28	19
Windom, 2,123—Cottonwood		
Windom Deaconess Hospital	15	8
Winona, 19,459—Winona		
Winona General Hospital	86	60
Worthington, 3,481—Nobles		
Southwestern Minnesota Tuberculosis Sanatorium	56	48
Worthington Clinic Hospital	15	6
Worthington Hospital	12	8
Ten General Hospitals of less than 10 beds	72	32
Total for community use, 170	11,233	7,514

In Minnesota the following fifteen counties have no hospitals for community use: Aitkin, Benton, Clearwater, Cook, Dodge, Faribault, Fillmore, Hubbard, Kanabec, Kittson, Mahnomen, Norman, Renville, Sherburne, Stevens.

MISSISSIPPI

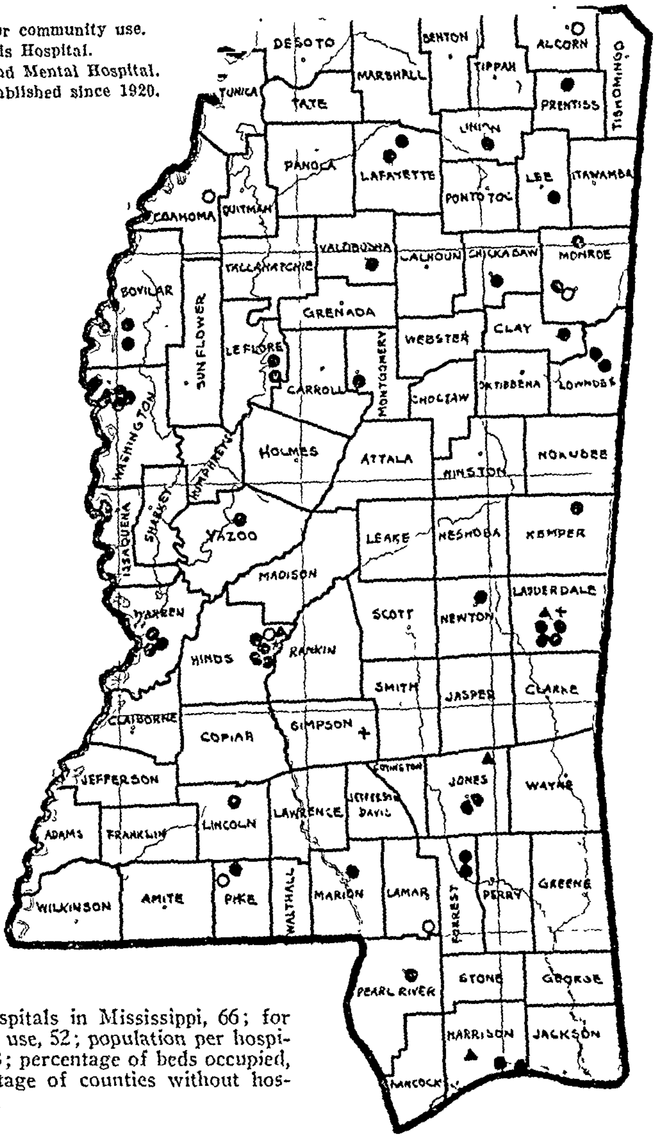
	Total Beds	Av. Beds in Use
Aberdeen, 4,071—Monroe		
Acker Hospital	10	1
Coleman Hospital	15	4
Amory, 2,861—Monroe		
Gilmore Sanitarium	30	12
Biloxi, 12,571—Harrison		
Biloxi City Hospital	35	16
Booneville, 1,495—Prentiss		
North East Mississippi Hospital	32	15
Brookhaven, 4,706—Lincoln		
King's Daughters' Hospital	30	15
Clarksdale, 7,552—Coahoma		
Clarksdale Hospital	22	6
Columbia, 2,826—Marion		
Columbia Hospital	35	25
Columbus, 11,358—Lowndes		
Columbus Hospital	30	10
Fite Hospital	25	11
Corinth, 4,946—Alcorn		
The McRae Hospital, Inc.	40	13
Greenville, 15,165—Washington		
Greenville Sanitarium	20	15
King's Daughters' Hospital (White)	45	44
King's Daughters' Hospital (Colored)	28	25
Greenwood, 7,793—Leflore		
Greenwood Colored Hospital	14	9
King's Daughters' Hospital	25	15
Gulfport, 8,157—Harrison		
King's Daughters' Hospital	118	35
Hattiesburg, 14,084—Forrest		
Methodist Hospital	35	21
South Mississippi Infirmary	60	40
Houston, 1,408—Chickasaw		
Houston Hospital, Inc.	50	22
Jackson, 23,698—Hinds		
Jackson Infirmary	85	25
Medical & Surgical Clinic	50	15
Mississippi Baptist Hospital	100	55
Mississippi State Charity Hosp. ★	100	75
Laurel, 15,713—Jones		
Dr. Roland Cranford's Hospital	55	45
South Mississippi Charity Hosp.	150	95
Lumberton, 2,192—Lamar		
Lumberton Hospital, Inc.	68	57
McComb, 6,237—Pike		
McComb City Hospital	30	12
McComb Infirmary	36	10
Meridian, 24,312—Lauderdale		
Dr. Hairston's Hospital	35	28
King's Daughters' Tuberculosis Hospital	44	35
Meridian Sanitarium	50	15
Rush's Infirmary	60	16
Turner Hospital	50	30
Natchez, 13,070—Adams		
Natchez Hospital ★	130	90
Natchez Sanatorium, Inc.	40	20
New Albany, 2,531—Union		
Maye's Hospital	30	14
Newton, 1,604—Newton		
Newton Sanitarium	20	10
Oxford, 2,150—Lafayette		
Bramlett Hospital	20	8
Oxford Hospital	25	10

	Total Beds	Av. Beds in Use
Poplarville, 1,290—Pearl River		
Pearl River County Hospital...	20	10
Rosedale, 1,696—Bolivar		
King's Daughters' Hospital.....	10	5
Rosedale Hospital.............	10	5
Tupelo, 5,055—Lee		
Tupelo Hospital...............	35	12
Vicksburg, 18,072—Warren		
Mississippi State Charity Hosp.★	110	110
Vicksburg Infirmary...........	50	40
Vicksburg Sanitarium.........	75	40
Water Valley, 4,064—Yalobusha		
Water Valley Hospital.........	12	5
West Point, 4,400—Clay		
Ivy [illegible]	24	12
Winon[illegible]		
Winc[illegible]	40	15
Yazoo City, 5,244—Yazoo		
Yazoo Hospital...............	30	15
One General Hospital of less than 10 beds......................	8	4
Total for community use, 52......	2,301	1,292

In Mississippi the following fifty-one counties have no hospitals for community use: *Amite, Attala, Benton, Calhoun, Carroll, Choctaw, Claiborne, Clarke, Copiah, Covington, DeSoto, Franklin, George, Greene, Grenada, Hancock, Holmes, Humphreys, Issaquena, Itawamba, Jackson, Jasper, Jefferson, Jefferson Davis, Lawrence, Leake, Madison, Marshall, Neshoba, Noxubee,* [illegible] *Pontotoc, Quitman,* [illegible] *ith, Stone, Sunflower, Tishomingo, Tunica, Wilkinson, Winston.*

MISSISSIPPI

● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✙ △ Established since 1920.



Total hospitals in Mississippi, 66; for community use, 52; population per hospital bed, 778; percentage of beds occupied, 56; percentage of counties without hospitals, 62.2.

MISSOURI

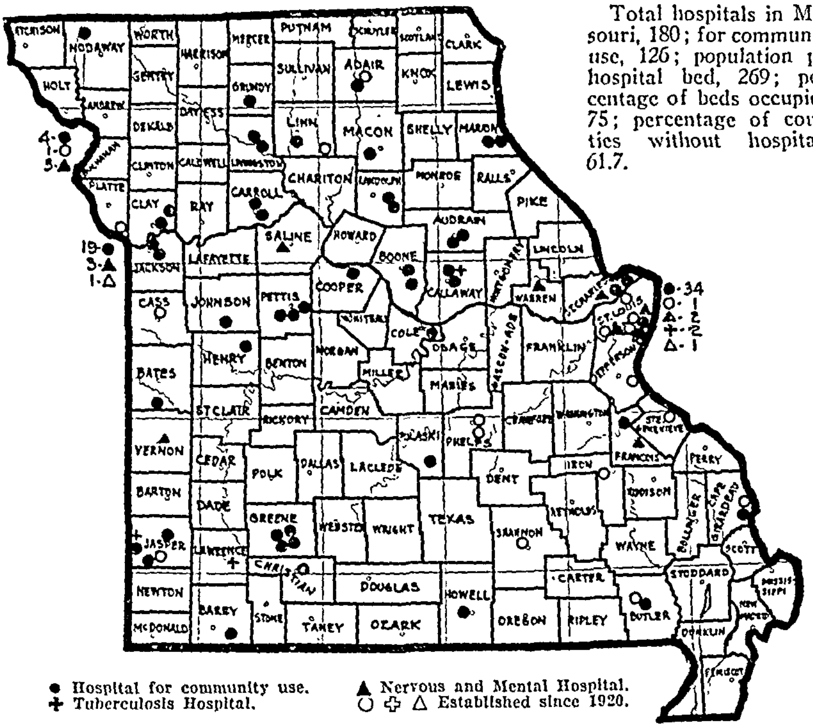
	Total Beds	Av. Beds in Use
Bonne Terre, 3,815—St. Francois		
Bonne Terre Hospital.........	30	15
Booneville, 4,665—Cooper		
St. Joseph's Hospital..........	25	10
Brookfield, 6,304—Linn		
Brookfield Hospital............	12	6
Cape Girardeau, 14,258—Cape Girardeau		
Alice K. Schultz Surgical Hosp.	15	9
St. Francis Hospital..........	75	40
Carrollton, 3,218—Carroll		
South Side Hospital..........	22	22
Carthage, 10,438—Jasper		
Carthage Hospital............	12	10
Chillicothe, 6,525—Livingston		
Chillicothe Hospital..........	30	6
The New Hospital............	12	8
Clinton, 5,098—Henry		
Dr. N. I. Stebbins Hospital.....	15	8
Columbia, 10,634—Boone		
Boone County Hospital........	40	18
University Hospital...........	75	19
Crescent, —— — St. Louis		
George Warren Brown Convalescent Hospital...........	16	7
Crystal City, 2,283—Jefferson		
Pittsburgh Plate Glass Co. Hosp.	15	New
Excelsior Springs, 4,165—Clay		
Excelsior Springs Sanitarium..	48	30
Fulton, 5,595—Callaway		
Callaway County Hospital.....	30	10
Georgetown, —— — Pettis		
Pettis County Hospital........	35	16
Glendale, (Kirkwood, P.D.), 749—St. Louis		
Oakland Park Hosp. (N.& M.).	20	12
Hannibal, 19,851—Marion		
Levering Hospital.............	50	28
St. Elizabeth's Hospital.......	35	16
Independence, 12,720—Jackson		
Independence Sanitarium......	53	35
Valle Sanitarium (N.& M.).....	35	4
Ironton, 832—Iron		
Arcadia Valley Hospital........	20	New
Jefferson City, 15,843—Cole		
St. Mary's Hospital...........	50	25
Joplin, 29,902—Jasper		
Freeman's Hospital............	68	25
St. John's Hospital............	75	40
Kansas City, 367,481—Jackson		
Baptist Hospital...............	35	30
Children's Mercy Hospital.....	135	121
Christian Church Hospital.....	135	100
O. J. Cunningham Sanatorium..	35	30
Grace [illegible]	110	50
Kansas [illegible]	330	292
Kansas [illegible]	12	6
Northeast Hospital............	80	35
Punton Sanitarium (N.& M.)...	45	40
Research Hospital★...........	175	119
Simpson-Major Sanitarium (N.& M.)	35	21
St. Joseph's Hospital★........	225	125
St. Luke's Hospital★..........	140	99
St. Mary's Hospital★..........	175	148
St. Vincent's Hospital.........	40	30
Trinity Lutheran Hospital......	58	37
Vineyard Park Hospital........	30	29
Wheatley-Provident Hospital...	40	20
Willows Maternity Sanitarium..	75	60
G. Wilse Robinson Sanitarium (N.& M.)	50	43
Kirksville, 7,213—Adair		
Ellis Hospital.................	10	7
Grim-Smith Hospital and Clinic	36	26
Kirkwood, 4,422—St. Louis		
Bethesda Dilworth Mem. Hosp.	31	New
Leeds, 1,000—Jackson		
Kansas City Tuberculosis Sanatorium	95	85
Marceline, 3,740—Linn		
B. B. Putnam Memorial Hosp..	15	10
Marthasville, 300—Warren		
Emmaus Home for Epileptics and Feebleminded (N.& M.)..	90	84
Maryville, 4,711—Nodaway		
St. Francis Hospital...........	75	27
Mexico, 6,013—Audrain		
Amanda Coil Hospital.........	25	10
Audrain Hospital.............	38	22
Moberly, 13,875—Randolph		
Woodland Hospital............	35	25
Monett, 4,206—Barry		
Dr. Wm. M. West's Hospital...	18	10
Overland, 800—St. Louis		
Overland Hospital............	10	4
Poplar Bluff, 8,042—Butler		
Brandon Hospital............	16	12
Cadwell Hospital.............	12	4
Richmond Heights, 2,136—St. Louis		
St. Mary's Hospital..........	300	150
Rolla, 2,077—Phelps		
Rolla Hospital...............	40	15
Sedalia, 22,745—Pettis		
Sedalia General Hospital.......	14	10
St. Mary's Hospital...........	20	8
Springfield, 42,140—Greene		
Burge Hospital...............	28	22
Frisco Employees' Hospital....	15	10
Springfield Baptist Hospital...	75	48
St. John's Hospital...........	100	82
St. Charles, 8,503—St. Charles		
St. Joseph's Hospital.........	45	25
Ste. Genevieve, 2,046—Ste. Genevieve		
Ste. Genevieve Hospital.......	15	10
St. Joseph, 78,342—Buchanan		
Dr. Byrd's Sanitarium........	30	15
Missouri Methodist Hospital....	200	92
Noyes Hospital...............	80	58
St. Joseph Contagious Hospital.	14	2
St. Joseph's Hospital.........	185	75
Thompson Sanitarium (N.& M.)	20	16
Dr. C. R. Woodson's Sanitarium (N.& M.)	35	28
St. Louis, 821,543—St. Louis		
Alexian Bros. Hospital★......	250	180
Barnard Free Skin and Cancer Hospital	44	31
Barnes Hospital★†............	270	206
Bethesda Hospital.............	103	65
Christian Hospital............	140	60
City Infirmary	60	25
City Isolation Hospital........	200	85
City Sanitarium (N.& M.)......	2,953	2,900
Evangelical Deaconess Hospital	110	96
Jewish Hospital of St. Louis★..	110	82
Josephine Hospital...........	50	36
Lutheran Hospital............	100	75
Missouri Baptist Sanitarium★..	325	275
Mt. St. Rose Sanatorium (T.B.)	150	150
The Peoples Hospital.........	50	20
Robert Koch Hospital (T.B.)..	475	310
Shriners Hospital for Crippled Children	107	100
St. Ann's Maternity Hospital...	50	30
St. Anthony's Hospital........	100	85
St. John's Hospital★..........	250	136
St. Louis Baptist Hospital.....	70	55
St. Louis Children's Hospital†.	143	84
St. Louis City Hospital★......	700	686
St. Louis City Hospital No. 2 (Colored)★	250	200

	Total Beds	Av. Beds in Use
St. Louis Maternity Hospital...	30	28
St. Louis Mullanphy Hospital..	125	80
St. Luke's Hospital ★..........	200	153
St. Mary's Infirmary ★..........	140	120
St. Vincent's Sanit. (N.& M.)..	360	300
Westminster Hospital	40	12
Trenton, 6,951—Grundy		
Wright Hospital................	15	6

	Total Beds	Av. Beds in Use
Deer Lodge, 3,780—Powell		
St. Joseph's Hospital..........	75	18
Dillon, 2,701—Beaverhead		
Barrett Hospital...............	20	7
Forsyth, 1,838—Rosebud		
Forsyth Deaconess Hospital....	33	10
Ft. Benton, 1,004—Chouteau		
St. Clare's Hospital...........	40	15

MISSOURI

Total hospitals in Missouri, 180; for community use, 126; population per hospital bed, 269; percentage of beds occupied, 75; percentage of counties without hospitals, 61.7.



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✙ △ Established since 1920.

	Total Beds	Av. Beds in Use
Havre, 5,429—Hill		
Sacred Heart Hospital..........	52	35
Helena, 12,037—Lewis and Clark		
Lewis and Clark Hospital......	40	30
St. John's Hospital...........	50	10
St. Peter's Hospital...........	50	30
Kalispell, 5,147—Flathead		
Kalispell General Hospital.....	60	40
Lewistown, 6,120—Fergus		
Fergus County Hospital.......	70	30
St. Joseph's Hospital...........	50	21
Libby, 1,522—Lincoln		
Kootenai Valley Hospital, Inc..	12	6
Livingston, 6,326—Park		
Park Hospital..................	30	15
Miles City, 7,937—Custer		
Holy Rosary Hospital..........	120	40
Missoula, 12,668—Missoula		
Northern Pacific Hospital.....	75	39
St. Luke's Hospital...........	20	7
St. Patrick's Hospital..........	120	65
Thornton Hospital..............	28	20
Outlook, 295—Sheridan		
Outlook Community Hospital...	14	8
Polson, 300—Flathead		
St. Joseph's Hospital..........	10	6
Red Lodge, 4,515—Carbon		
Mt. Maurice Hospital & Sanitarium	30	18
Roundup, 2,409—Musselshell		
Musselshell Valley Hospital....	20	10
Scobey, 1,170—Daniels		
Harris Hospital................	10	5
Sidney, 1,400—Richland		
Sidney Deaconess Hospital....	32	18
St. Ignatius, 80—Lake		
Holy Family Hospital..........	30	15
Three Forks, 1,071—Gallatin		
Three Forks Hospital..........	30	6
Six General Hospitals of less than 10 beds.........................	40	18
Total for community use, 51......	2,319	1,213

In Montana the following fifteen counties have no hospitals for community use: Broadwater, Carter, Fallon, Garfield, Liberty, McCone, Madison, Meagher, Mineral, Phillips, Powder River, Sanders, Toole, Treasure, Wibaux.

NEBRASKA

	Total Beds	Av Beds in Use
Ainsworth, 1,508—Brown		
Brown Co. (Ainsworth) Hospital	24	13
Alliance, 4,591—Box Butte		
St. Joseph's Hospital..........	65	31
Alma, 1,058—Harlan		
Alma Hospital.................	12	3
Auburn, 2,863—Nemaha		
Auburn Hospital...............	10	3
Aurora, 2,962—Hamilton		
Aurora Hospital...............	20	12
Axtell, 394—Kearney		
Bethphage Inner Mission Ass'n.	110	100

	Total Beds	Av. Beds in Use
Valley Park, 899—St. Louis		
Ridge Farm....................	60	46
Webb City, 7,807—Jasper		
Jane Chinn Hospital..........	25	20
Jasper Co. Tuberculosis Hospital	105	88
Webster Groves, 9,474—St. Louis		
Glenwood Sanatorium (N.& M.)	35	30
Miriam Convalescent Home.....	30	18
Westplains, 3,178—Howell		
Christa Hogan Hospital........	16	9
Five General Hospitals of less than 10 beds..................	29	18
Total for community use, 126.....	12,865	9,746

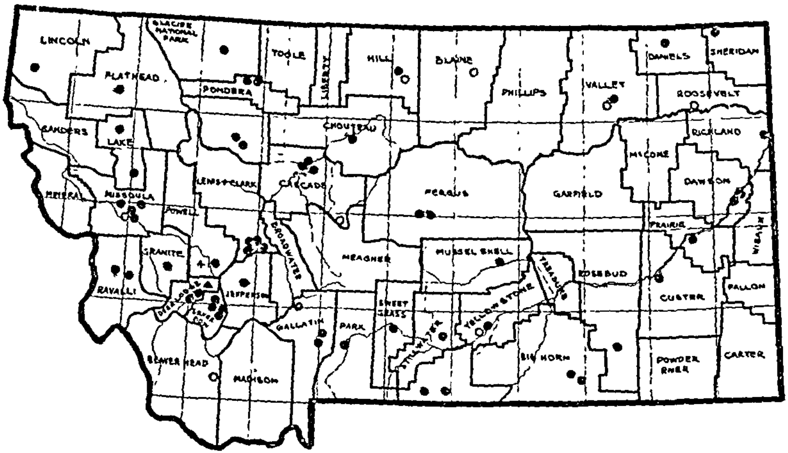
In Missouri the following seventy-one counties have no hospitals for community use: Andrew, Atchison, Barton, Benton, Bollinger, Caldwell, Camden, Cedar, Chariton, Clark, Crawford, Dade, Dallas, Daviess, De Kalb, Dent, Douglas, Dunklin, Franklin, Gasconade, Gentry, Harrison, Hickory, Holt, Howard, Knox, Laclede, Lafayette, Lewis, Lincoln, McDonald, Madison, Maries, Mercer, Miller, Mississippi, Moniteau, Monroe, Montgomery, Morgan, New Madrid, Newton, Oregon, Osage, Ozark, Pemiscot, Perry, Pike, Polk, Putnam, Ralls, Ray, Ripley, St. Clair, Saline, Schuyler, Scotland, Scott, Shelby, Stoddard, Stone, Sullivan, Taney, Texas, Vernon, Warren, Washington, Wayne, Webster, Worth, Wright.

MONTANA

	Total Beds	Av. Beds in Use
Anaconda, 12,537—Deerlodge		
St. Ann's Hospital............	65	40
Billings, 17,971—Yellowstone		
St. Vincent's Hospital.........	160	75
Bozeman, 6,183—Gallatin		
Bozeman Deaconess Hospital...	50	22
Butte, 42,867—Silver Bow		
Butte Deaconess Hospital......	27	15
Murray Hospital ★............	110	64
Silver Bow County Hospital...	150	125
St. James Hospital ★..........	150	68
Choteau, 1,043—Teton		
Choteau Hospital	10	8
McGregor Hospital............	15	8
Columbus, 987—Stillwater		
Stillwater Hospital............	14	8
Conrad, 988—Pondera		
Conrad Hospital...............	20	12

	Total Beds	Av. Beds in Use
Glasgow, 2,059—Valley		
Frances Mahon Deaconess Hosp.	30	12
Valley County Hospital........	20	6
Glendive, 3,816—Dawson		
Glendive General Hospital......	20	6
Northern Pacific Hospital......	50	21

MONTANA



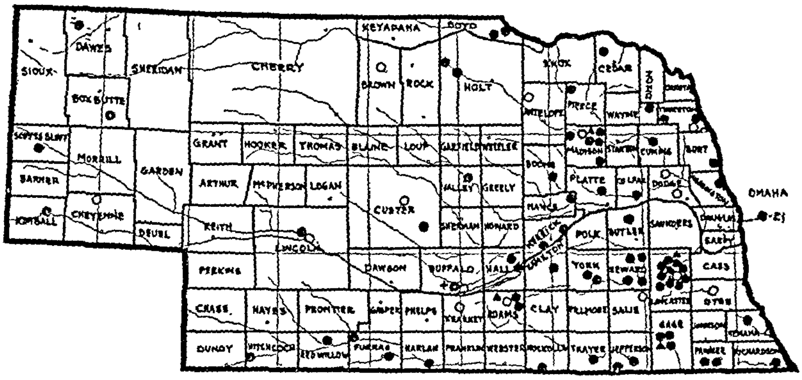
● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✙ △ Established since 1920.

Total hospitals in Montana, 70; for community use, 51; population per hospital bed, 274; percentage of beds occupied, 52; percentage of counties without hospitals, 26.8.

	Total Beds	Av. Beds in Use
Great Falls, 29,883—Cascade		
Columbus Hospital............	125	91
Montana Deaconess Hospital...	115	79
Hamilton, 1,700—Ravalli		
Hamilton Hospital.............	13	6
Hardin, 1,312—Big Horn		
Labbitt Hospital..............	14	5

	Total Beds	Av. Beds in Use
Beatrice, 9,664—Gage		
Beatrice Sanitarium..........	25	14
Lutheran Hospital.............	65	30
[illegible] Hospital..	30	15
[illegible] nas		
[illegible]..........	10	4
[illegible]		
[illegible]......................	15	4

NEBRASKA



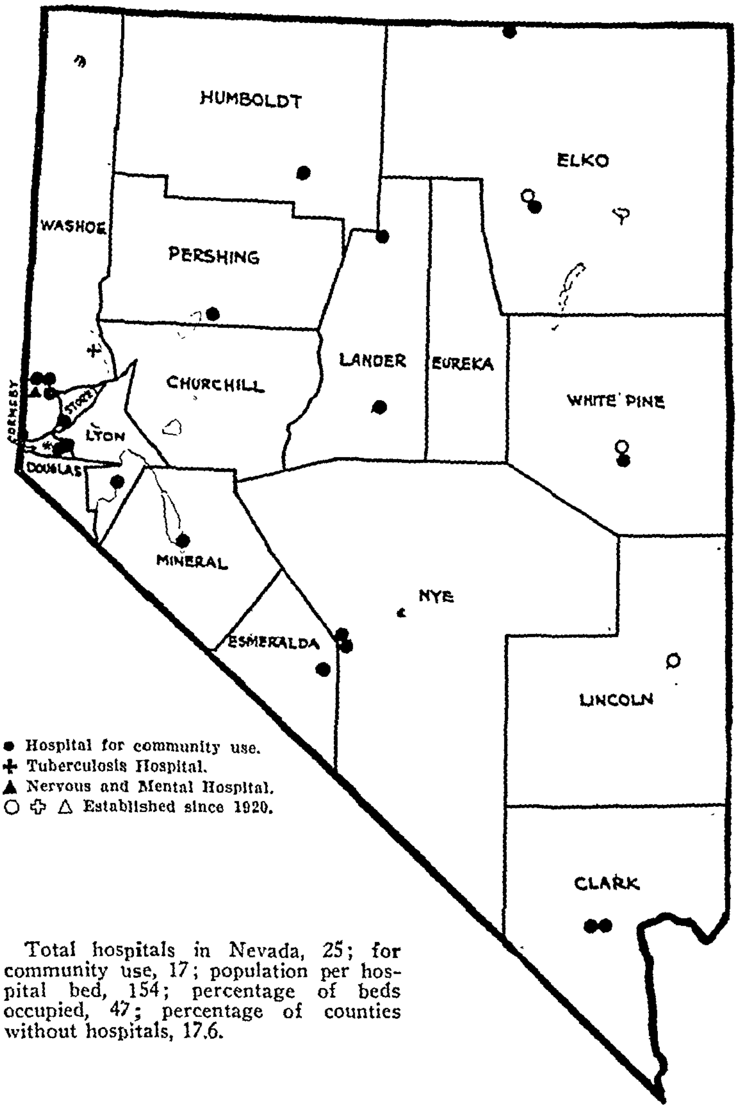
● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Nebraska, 122; for community use, 96; population per hospital bed, 304; percentage of beds occupied, 59; percentage of counties without hospitals, 48.3.

	Total Beds	*Av. Beds* in Use
Broken Bow, 2,567—Custer		
Broken Bow Hospital	35	14
Cambridge, 1,042—Furnas		
Republican Valley Hospital	25	10
Central City, 2,410—Merrick		
The J. E. Benton Hospital	10	4
College View, 2,249—*Lancaster*		
College View Sanitarium	30	18
Columbus, 5,410—Platte		
St. Mary's Hospital	208	150
Crawford, 1,646—Dawes		
R. L. Ivins Hospital	10	4
Dalton, 295—Cheyenne		
The Pioneer Memorial Hospital	*10*	*New*
David City, 2,216—Butler		
David City Hospital	25	16
Fairbury, 5,454—Jefferson		
Fairbury Hosiptal	25	6
Taylor Hospital	20	8
Falls City, 4,930—Richardson		
Falls City Hospital	30	10
Fremont, 9,570—Dodge		
Military Avenue Hospital	25	13
Richmond Hospital	12	7
Grand Island, 15,602—Hall		
Grand Island General Hospital	*25*	*17*
St. Francis Hospital	200	130
Hastings, 12,954—Adams		
Mary Lanning Memorial Hosp.	60	40
Nebraska Sanitarium	30	10
Hebron, 1,513—Thayer		
Blue Valley Hospital	25	20
Kearney, *7,702*—Buffalo		
Good Samaritan Hospital, Inc.	50	15
St. Luke's Hospital	22	11
Kimball, 1,620—Kimball		
Miller Hospital	12	7
Lincoln, 60,941—Lancaster		
Esther's Hospital	25	10
Green Gables	115	92
Lincoln General Hospital	110	54
Lincoln Hospital	30	17
Lincoln Sanitarium	100	70
Nebraska Orthopedic Hospital	100	99
Dr. Shoemaker's Private Hosp.	38	30
St. Elizabeth's Hospital ★	175	110
Lynch, 589—Boyd		
Lynch General Hospital	18	9
McCook, 4,303—Redwillow		
St. Catherine of Sienna Hospital	43	10
Newman Grove, 1,200—Madison		
Community Hospital	10	3
Norfolk, 8,634—Madison		
The Lutheran Hospital	45	29
Norfolk City Hospital	22	16
Norfolk General Hospital	25	8
Verges Hospital	10	5
North Platte, 13,679—Lincoln		
Platte Valley Hospital	14	6
Wurtele Hospital	12	7
Omaha, 211,768—Douglas		
Bishop Clarkson Memorial Hosp.	80	52
City Detention Hospital	22	8
City Emergency Hospital	40	13
Creighton Memorial — St. Joseph's Hospital ★	400	300
Douglas County Hospital	180	130
Evangelical Covenant Hospital	70	40
Immanuel Deaconess Institute	55	41
Lord Lister Hospital	130	81
Nebraska Methodist Episcopal *Hospital* ★	295	155
Nicholas Senn Hospital	80	55
Omaha Maternity Hospital	22	14
Paxton Memorial Hospital	65	31
Radium Hospital	30	12
South Side Hospital	25	10
St. Catherine's Hospital	165	75
University of Nebraska Hosp.★	130	100
Wise Memorial Hospital	76	50
Ord, 2,143—Valley		
Ord Hospital	15	10
Palmer, 577—Merrick		
Coolidge Hospital and Sanatorium	10	2
Pawnee City, 1,595—Pawnee		
Pawnee City Hospital	22	18
Schuyler, 2,636—Colfax		
Kolouch Hospital	12	8
Scottsbluff, 6,912—Scotts Bluff		
West Nebraska Methodist Episcopal Hospital	52	30
Seward, 2,368—Seward		
Hillcrest Hospital & Sanitarium	11	[illegible]
Morrow Hospital	25	7
Spencer, 728—Boyd		
Spencer Hospital	15	5
Stratton, 509—Hitchcock		
Dr. Stewart's Private Hospital.	14	6
Stuart, 739—Holt		
Wilson Hospital	10	6
Superior, 2,719—Nuckolls		
Superior Memorial Hospital	10	5
Tekamah, 1,811—Burt		
Fraternity Hospital	*15*	*5*
Walthill, 1,145—Thurston		
Dr. Picotte Memorial Hospital	15	7
York, 5,388—York		
Evangelical Lutheran Hospital.	60	25
York Clinic and Clinic Hospital	*15*	3
Fifteen General Hospitals of less than 10 beds	116	43
Total for community use, 96	4,449	2,666

In Nebraska the following forty-five counties have no hospitals for community use: Arthur, Banner, Blaine, Cass, Chase, Cherry, Clay, Dakota, Dawson, Deuel, Dixon, Dodge, Dundy, Fillmore, Franklin, Frontier, Garden, Garfield, Gosper, Grant, Greeley, Hayes, Hooker, Howard, Johnson, Keith, Keyapaha, Knox, Logan, Loup, McPherson, Morrill, Perkins, Phelps, Polk, Rock, Sarpy, Saunders, Sheridan, Sherman, Sioux, Stanton, Thomas, Wayne, Webster, Wheeler.

NEVADA



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Nevada, 25; for community use, 17; population per hospital bed, 154; percentage of beds occupied, 47; percentage of counties without hospitals, 17.6.

NEVADA

	Total Beds	Av. Beds in Use
East Ely, 475—White Pine		
Steptoe Valley Hospital........	40	21
Elko, 2,173—Elko		
Elko General Hospital........	50	15
Ely, 2,090—White Pine		
White Pine Co. & General Hosp.	24	18
Goldfield, 1,558—Esmeralda		
Association Hospital...........	20	5
Hawthorne, 200—Mineral		
Mineral County Hospital.......	14	9
Las Vegas, 2,304—Clark		
Hewetson Hospital............	20	15
Las Vegas Hospital............	25	6
Lovelock, 1,164—Pershing		
Lovelock Hospital.............	18	10
Mason, —— —Lyon		
Mason Hospital...............	15	3
Reno, 12,665—Washoe		
Reno Hospital................	17	10
St. Mary's Hospital...........	50	28
Washoe County Hospital.......	96	50
Tonopah, 4,144—Nye		
Nye County Hospital..........	35	18
Tonopah Mines Hospital.......	20	12
Winnemucca, 1,275—Humboldt		
Humboldt Co. Hospital.........	30	7
Two General Hospitals of less than 10 beds......................	13	5
Total for community use, 17......	487	232

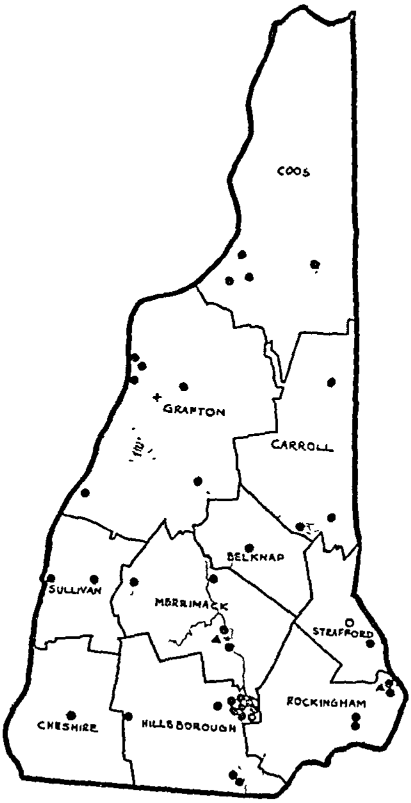
In Nevada the following three counties have no hospitals for community use: Churchill, Douglas, Eureka.

NEW HAMPSHIRE

	Total Beds	Av. Beds in Use
Berlin, 18,552—Coos		
St. Louis Hospital.............	60	40
Brentwood (Exeter, P. O.), 759—Rockingham		
Rockingham County Hospital...	35	30
Claremont, 7,529—Sullivan		
Claremont General Hospital...	52	21
Colebrook, 1,905—Coos		
Colebrook Hospital............	30	7
Concord, 22,546—Merrimack		
Margaret Pillsbury General Hospital	50	42
New Hampshire Memorial Hospital for Women and Children	63	40
Dover, 13,029—Strafford		
Wentworth Hospital...........	62	20
Exeter, 4,604—Rockingham		
Exeter Hospital..............	52	26
Franklin, 6,318—Merrimack		
Franklin Hospital............	37	15
Grasmere, 400—Hillsborough		
Hillsborough Co. Hospital......	85	84
Hanover, 1,513—Grafton		
Mary Hitchcock Memorial Hosp.	70	54
Keene, 11,855—Cheshire		
Elliot Community Hospital....	70	42
Laconia, 11,300—Belknap		
Laconia Hospital.............	48	31
Lancaster, 3,054—Coos		
The Lancaster Hospital.......	15	9
Lincoln, 1,278—Grafton		
Lincoln Hospital.............	20	5
Littleton, 2,308—Grafton		
Littleton Hospital............	25	17
Manchester, 83,097—Hillsborough		
Balch Hospital................	19	19
Beacon Hill Hospital..........	14	12
Elliot Hospital...............	75	47
Hospital Notre Dame de Lourdes	75	60
Our Lady of Perpetual Help Hospital	25	15
Sacred Heart Hospital........	85	54
Nashu [illegible]		
Nas [illegible]	54	46
St. [illegible] ..	115	85
New [illegible]		
New [illegible]	14	4
Newp [illegible]		
Carrie F. Wright Memorial Hospital	20	12
North Conway, 1,500—Carroll		
Memorial Hospital............	30	10
North Haverhill, 60—Grafton		
Grafton Co. Farm Hospital....	10	4
Pembroke, —— —Merrimack		
Pembroke Sanat., Inc. (T.B.)...	90	65
Peterboro, 2,277—Hillsborough		
The Peterboro Hospital.......	19	9
Plymouth, 2,353—Grafton		
Emily Balch & Soldiers and Sailors Memorial Hospital...	25	12
Portsmouth, 14,871—Rockingham		
Portsmouth Hospital...........	67	28
Sidis Psychotherapeutic Institute	*20*	*3*
Rochester, 9,673—Strafford		
Rochester Hospital............	25	20
Whitefield, 1,635—Coos		
Morrison Hospital.............	35	22
Wolfeboro, 2,224—Carroll		
Huggins Hospital.............	25	12
Woodsville, 1,750—Grafton		
Grafton County Hospital.......	20	12
Woodsville Hospital...........	25	18
Two General Hospitals of less than 10 beds......................	17	7
Total for community use, 40......	1,678	1,059

All Counties in New Hampshire have hospitals.

NEW HAMPSHIRE



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in New Hampshire, 51; for community use, 40; population per hospital bed, 268; percentage of beds occupied, 63; percentage of counties without hospitals, 0.0.

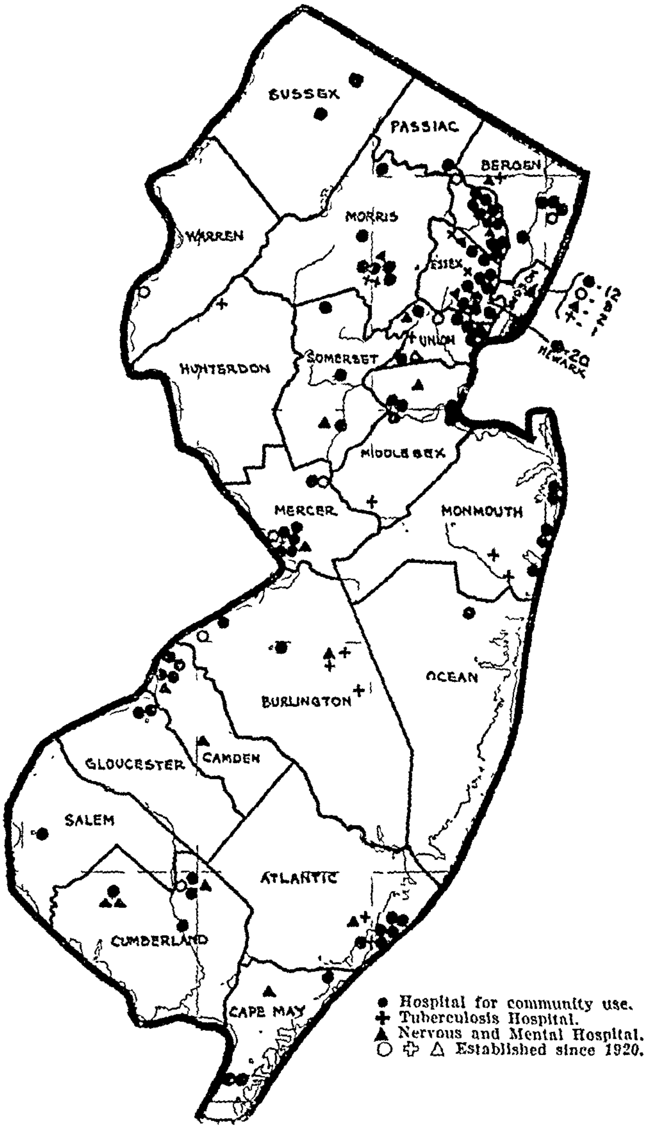
NEW JERSEY

	Total Beds	Av. Beds in Use
Allenwood, —— —Monmouth		
Allenwood Sanitarium & Monmouth County Hospital (T.B.)	55	55
Arlington, —— —Hudson		
West Hudson Hospital........	32	21
Atlantic City, 53,287—Atlantic		
Atlantic City Hospital ★.......	195	140
Children's Seashore House for Invalid Children............	390	380
Dr. Leonard Private Sanitarium	25	14
Seaside House for Invalid Women	132	87
Bayonne, 88,767—Hudson		
Bayonne Hospital and Dispensary ★	100	80
Swiney Sanitarium	28	15
Bellemead, 50—Somerset		
Bellemead Farm Colony and Sanitarium (N.& M.)	100	60
Belleville, 18,927—Essex		
Essex Co. Hospital for Contagious Diseases.............	350	85
Bridgeton, 14,387—Cumberland		
Bridgeton Hospital............	82	35
Cumberland Co. Hospital for Insane	175	175
Ivy Hall Sanitarium (N.& M.)..	25	23
Browns Mills, —— — Burlington		
Deborah Tuberculosis Sanat....	40	40
Camden, 128,642—Camden		
Bellevue Private Hospital.....	25	18
Cooper Hospital ★.............	201	154
West Jersey Homeopathic Hosp.★	140	90
Cedargrove, 569—Essex		
Essex County Hospital (N.& M.)	2,000	1,936
Chatsworth, 100—Burlington		
The Pines Sanatorium (T.B.)..	30	10
Dover, 9,817—Morris		
Dover General Hospital.......	24	17
Elizabeth, 95,783—Union		
Alexian Brothers' Hospital ★...	110	90
Elizabeth General Hospital ★...	170	90
St. Elizabeth's Hospital ★......	160	125
Englewood, 12,590—Bergen		
Daisy Fields Hospital for Crippled Children	18	18
Englewood Hospital Ass'n.★....	115	81
Farmingdale, 416—Monmouth		
Tuberculosis Preventorium for Children	180	150
Franklin, 4,075—Sussex		
Franklin Hospital..............	25	15
Grenloch, —— — Camden		
Camden Co. Hospital for the Insane	350	241
Sunny Rest Sanatorium (T.B.).	228	210
Hackensack, 19,715—Bergen		
Hackensack Hospital ★.........	225	135
Hoboken, 68,166—Hudson		
Farr Sanatorium..............	*20*	*10*
St. Mary's Hospital ★..........	450	109
Irvington, 33,186—Essex		
Irvington General Hospital.....	75	60
Jersey City, 315,280—Hudson		
Bergen Private Sanitarium.....	30	20
Christ Hospital ★.............	110	75
Fairmount Private Hospital....	48	40
Greenville Hospital...........	60	28
Jersey City Hospital ★.........	570	447
St. Francis' Hospital ★.........	220	150
Lakewood, 3,000—Ocean		
Paul Kimball Hospital, Inc...	50	30
Long Branch, 13,646—Monmouth		
Dr. E. C. Hazard Hospital......	57	26
Monmouth Memorial Hospital ★.	176	110
Midland Park, 2,243—Bergen		
Christian Sanatorium (N.& M.)	50	46
Millville, 15,960—Cumberland		
Millville Hospital	30	18
Montclair, 32,922—Essex		
Mountainside Hospital ★.......	216	108
Morristown, 12,570—Morris		
All Souls Hospital.............	90	58
Aurora Health Farm...........	20	12
Morristown Memorial Hospital ★	150	79
Physiatric Institute	100	60
Shonghum Sanatorium (T.B.)..	44	32
Mt. Holly, 5,750—Burlington		
Burlington County Hospital....	35	25
Newark, 452,513—Essex		
The Babies Hospital...........	40	26
Homeopathic Hospital of Essex County	50	36
Hospital and Home for Crippled Children	64	58
Hospital for Women and Children	60	30
Hospital of St. Barnabas ★.....	119	82
Lincoln Private Hospital.......	30	15
Newark Beth Israel Hospital ★	102	95
Newark City Hospital ★........	650	560
Newark Eye and Ear Infirmary.	56	10
Newark Maternity Hospital.....	30	22
Newark Memorial Hospital ★....	150	110
Newark Private Hospital.......	50	40
Presbyterian Hospital.........	80	61
St. Gerard's Newark Italian Hospital	100	30
St. *James Hospital* ★..........	115	75
St. Michael's Hospital ★.......	300	250
Dr. Waite's Surgical Sanatorium	15	6
Dr. Wright's Sanitarium.......	20	10
New Brunswick, 37,984—Middlesex		
Francis E. Parker Home.......	28	20
Middlesex General Hospital....	60	46
St. Peter's General Hospital....	91	80
Newfoundland, 564—Morris		
Newfoundland Health Ass'n...	30	20
New Lisbon, 50—Burlington		
Burlington County Hospital for the Insane..................	200	193
Fairview Sanatorium (T.B.)...	55	45
Northfield, 1,127—Atlantic		
Atlantic Co. Hospital for Tuberculous Diseases	50	28
Atlantic Co. Hospital for Mental Diseases	300	250
Orange, 35,379—Essex		
New Jersey Orthopedic Hospital and Dispensary	35	33
Orange Memorial Hospital ★....	180	163
St. Mary's Hospital ★..........	130	80
Passaic, 68,979—Passaic		
Passaic General Hospital ★.....	112	80
St. Mary's Hospital ★.........	115	76
Paterson, 141,695—Passaic		
Barnert Memorial Hospital ★....	100	75
Paterson City Hospital........	110	58
Paterson General Hospital ★...	167	110
Riverlawn Sanatorium (N.& M.)	50	25
St. Joseph's Hospital ★........	290	150
Perth Amboy, 47,136—Middlesex		
Perth Amboy City Hospital....	100	41
Phillipsburg, 18,633—Warren		
Warren Hospital..............	60	12
Plainfield, 31,748—Union		
Muhlenberg Hospital ★.........	125	105
Plainfield Sanitarium	55	15
Pompton Lakes, 2,008—Passaic		
St. Paul's Deaconess Home and Hospital	40	5
Princeton, 5,917—Mercer		
Princeton Hospital............	35	18
Ridgewood, 7,580—Bergen		
Bergen Pines Bergen County Hospital (T.B.).............	250	100

	Total Beds	Av. Beds in Use
Riverside, 4,000—Burlington		
Zurbrugg Memorial Hospital....	12	6
Riverton, 2,341—Burlington		
Cinnaminson Home...........	25	14
Salem, 7,435—Salem		
Salem Co. Memorial Hospital...	32	20
Scotch Plains, 1,000—Union		
Bonnie Burn Sanatorium (T.B.)	280	252
Secaucus, 5,423—Hudson		
Hudson County Hospital.......	144	140
Hudson County Hospital for Insane	1,400	1,000
Hudson County Smallpox Hosp.	50	34
Hudson Co. Tuberculosis Hosp.	189	173
Somerville, 6,718—Somerset		
Somerset Hospital............	74	35
South Amboy, 7,897—Middlesex		
South Amboy Memorial Hospital	35	15
South Orange, 7,274—Essex		
Dr. Runyon's Hospital.........	15	5
Spring Lake Beach, 853—Monmouth		
Ann May Memorial Homeopathic Hospital	69	55
Summit, 11,687—Union		
Fair Oaks Sanatorium (N.& M.)	41	38
Overlook Hospital.............	80	50
Sussex, 1,318—Sussex		
Alexander Linn Hospital......	20	10
Teaneck, —— — Bergen		
"Bright Side" Sanitarium.....	25	22
Holy Name Hospital............	155	New
Trenton, 132,020—Mercer		
Mercer Hospital ★.............	155	92
Orthopaedic Hospital and Dispensary	21	20
St. Francis' Hospital ★........	211	205
Wm. McKinley Memorial Hosp.★	136	80
Union, 63,117—Union		
Hamilton Sanitarium..........	30	15
Ventnor, 491—Atlantic		
North American Sanitarium for Surgical Tuberculosis........	40	37
Verona, 3,039—Essex		
Essex Mountain Sanat. (T.B.)..	250	215
Montclair Fresh Air and Convalescent Home	40	36
Vineland, 6,799—Cumberland		
Newcomb Hospital.............	65	40
Weehawken, 11,228—Hudson		
North Hudson Hospital ★......	92 (a)	68
Wildwood, 2,790—Cape May		
Margaret Mace's Hospital......	10	6
Woodbury, 5,801—Gloucester		
Brewer Hospital...............	18	12
Underwood Hospital...........	24	16
One General Hospital of less than 10 beds..........................	6	1
Total for community use, 103.....	16,874	12,189

In New Jersey the following county has no hospital for community use: Hunterdon.

NEW JERSEY



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✣ △ Established since 1920.

Total hospitals in New Jersey, 180; for community use, 103; population per hospital bed, 207; percentage of beds occupied, 72; percentage of counties without hospitals, 4.8.

NEW MEXICO

	Total Beds	Av. Beds in Use
Albuquerque, 21,000—Bernalillo		
Albuquerque Sanatorium (T.B.)	55	23
Atchison, Topeka & Sante Fe Hospital	42	18
Children's Hospital............	30	15
E. S. Marshall Sanatorium (T.B.)	14	10
Methodist Deaconess Sanatorium (T.B.)	65	60
Southwestern Presbyterian Sanatorium (T.B.)...............	100	82
St. Joseph's Sanatorium & Hosp.	36	13
Women's and Children's Hosp.	36	12
Carlsbad, 2,205—Eddy		
Eddy County Hospital.........	17	8
St. Francis Hospital...........	50	25
Cloudcroft, 200—Otero		
Cloudcroft Baby Sanatorium...	15	10
Clovis, 4,904—Curry		
Atchison, Topeka and Santa Fe Hospital	32	16
New Mexico Baptist Hospital...	23	8
Dawson, 100—Colfax		
Phelps Dodge Corporation Hosp.	30	16
Deming, 3,212—Luna		
Deming Ladies' Hospital.......	24	5
Holy Cross Sanatorium (T.B.).	180	40
Farmington, 576—San Juan		
San Juan Hospital, Inc........	12	6
Gallup, 3,920—McKinley		
St. Mary's Hospital...........	77	36
Gardiner, 1,120—Colfax		
Gardiner Hospital.............	35	7
Las Vegas, 4,304—San Miguel		
Las Vegas Hosp. and Sanitarium	64	34
St. Anthony's Sanitarium and Hospital	68	26
Lordsburg, 1,325—Hidalgo		
Lordsburg Hospital............	16	6
Rehoboth, —— —McKinley		
Rehoboth Mission Hospital....	31	26
Roswell, 7,062—Chaves		
St. Mary's Hospital...........	75	55
Santa Fe, 7,236—Santa Fe		
St. Vincent's Sanatorium and Hospital	85	50
Sunmount Sanatorium (T.B.)..	50	44
Silver City, 1,100—Grant		
Grant County Hospital........	13	6
New Mexico Cottage Sanatorium (T.B.)	75	`50
Tucumcari, 3,117—Quay		
Tucumcari Hospital............	20	8
Valmora, —— —Mora		
Valmora Sanatorium (T.B.)....	80	50
Two General Hospitals of less than 10 beds.......................	13	3
Total for community use, 32......	1,463	768

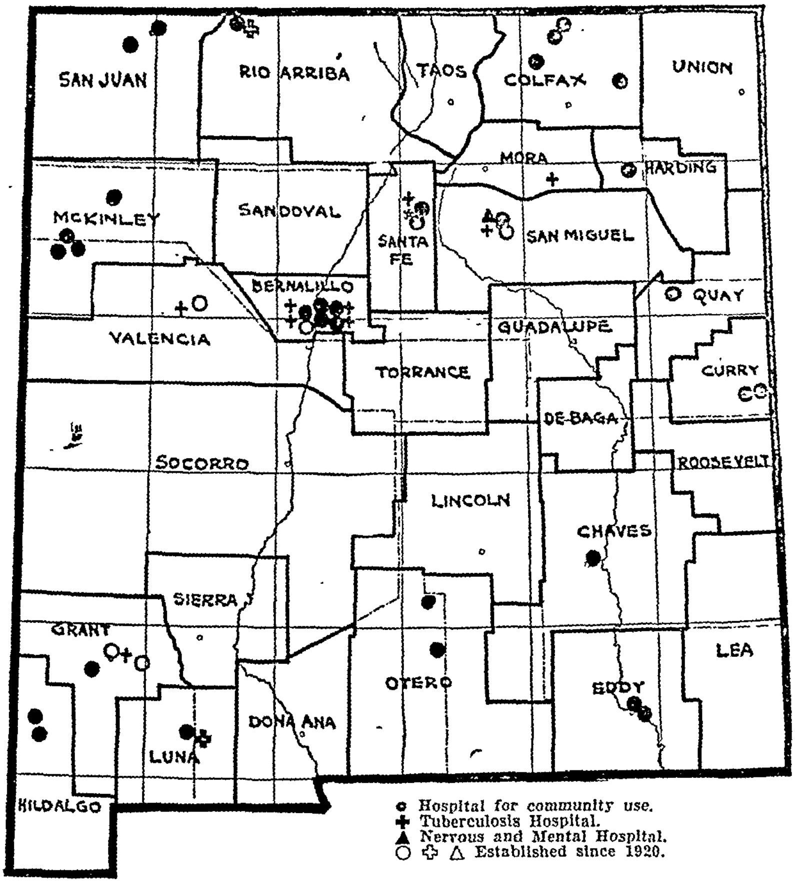
In New Mexico the following fourteen counties have no hospitals for community use: De Baca, Dona Ana, Guadalupe, Hidalgo, Lea, Lincoln, Mora, Roosevelt, Sandoval, Sierra, Socorro, Taos, Torrance, Union.

NEW YORK

	Total Beds	Av. Beds in Use
Albany, 117,820—Albany		
Albany Hospital ★.............	411	310
Albany's Hospital for Incurables	100	90
Anthony N. Brady Maternity Hospital	50	40
Child's Hospital..............	60	40
Evergreens Sanatorium School (N.& M.)	15	8
Memorial Hospital............	126	98
St. Peter's Hospital ★.........	135	87
Albion, 4,683—Orleans		
Arnold Gregory Memorial Hosp.	24	12
Orleans County Hospital.......	80	15
Amityville, 3,265—Suffolk		
Knickerbocker Hall (N.& M.)..	31	31
Long Island Home (N.& M.)...	164	150
Louden Hall, Cottage Home Sanitarium	75	60
Amsterdam, 35,260—Montgomery		
Amsterdam City Hospital......	65	40
Montgomery County Sanatorium (T.B.)	44	43
St. Mary's Hospital...........	52	48
Auburn, 35,677—Cayuga		
Auburn City Hospital ★........	87 (a)	65
Mercy Hospital of Auburn.....	25	17
The Pines (N.&M.)...........	15	7
Sunny Crest Sanatorium (T.B.)	38	25
Ballston Spa, 4,103—Saratoga		
Spa Sanatorium...............	25	15
Batavia, 15,628—Genesee		
St. Jerome's Hospital..........	52	37
Woman's Hospital Association..	50	25
Bath, 4,795—Steuben		
Bath Hospital................	50	30
Pleasant Valley Sanatorium (T.B.)	32	28
Bay Shore, 4,000—Suffolk		
Dr. King's Private Hospital....	30	13
Southside Hospital, Inc........	40	27

	Total Beds	Av. Beds in Use
Beacon, 11,621—Dutchess		
Craig House (N.& M.)	50	45
Highland Hospital	27	20
Bedford Hills, 1,000—Westchester		
Montefiore Country Sanatorium (T.B.)	219	200
Binghamton, 71,915—Broome		
Binghamton City Hospital ★	150	126
Binghamton Training School for Nervous, Backward & Mental Defectives	30	18
Endicott-Johnson Clinton Street Hospital	14	10
Dr. Lyon's Sanitarium (N.& M.)	10	8
Moore-Overton Hospital	20	16
Brentwood, 500—Suffolk		
Ross S[illegible]	30	20
Brewster, [illegible]		
Mo[illegible]	25	24
[illegible]		
[illegible]	60	40

NEW MEXICO



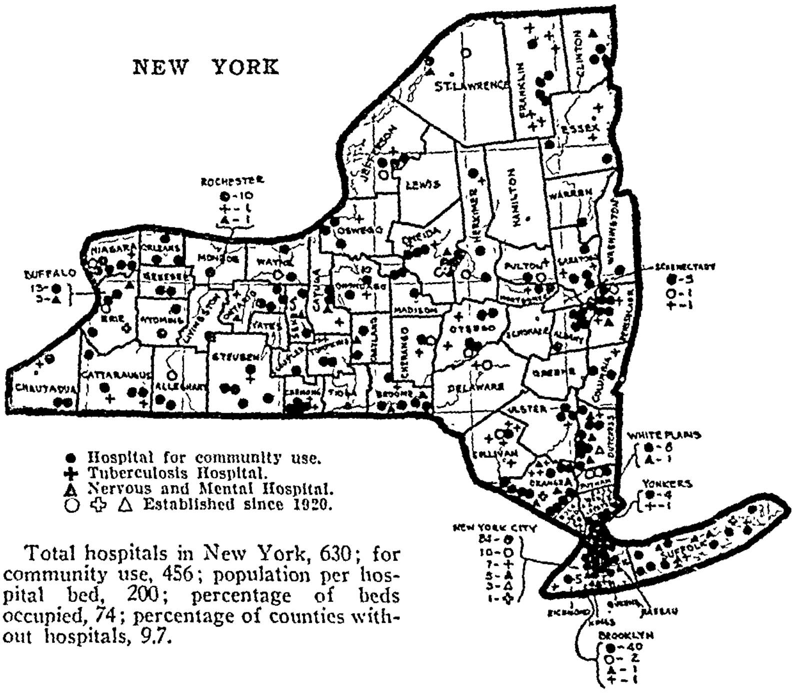
● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✣ △ Established since 1920.

Total hospitals in New Mexico, 53; for community use, 32; population per hospital bed, 259; percentage of beds occupied, 52; percentage of counties without hospitals, 45.1.

	Total Beds	Av. Beds in Use
Brooklyn, 2,018,356—Kings		
Bay Ridge Sanitarium	50	30
Bedford Maternity Hospital	20	12
Bedford Sanitarium	14	9
Bethany Deaconess Hospital	100	62
Beth Moses Hospital ★	182	156
Borough Park Maternity Hosp.	75	50
Brooklyn Eye and Ear Hospital	76	23
Brooklyn Hebrew Maternity Hospital	27	25
Brooklyn Home for Consumptives	101	98
Brooklyn Hospital ★	260	207
Brooklyn Maternity Hospital	29	12
Brownsville & East New York Hospital ★	120	115
Bushwick Hospital	88	68
Caledonian Hospital	25	20
Carson C. Peck Memorial Hosp.	90	72
Coney Island Hospital	132	99
Cumberland Hospital ★	340	223
Greenpoint Hospital ★	239	140
Hamilton Private Hospital	23	16
Harbor Hospital, Inc.	60	21
Hospital of the Holy Family ★	110	79
House of St. Giles the Cripple	100	71
Jewish Hospital of Brooklyn ★	296	234
Kings County Hospital ★	1,809	1,430
Kingston Avenue Hospital	410	244
Long Island College Hospital ★	450	318
Lutheran Hospital	43	32
Methodist Episcopal Hospital ★	247	241
Midwood Sanitarium, Inc.	34	26
Norwegian Lutheran Deaconesses' Home and Hospital ★	168	120
Prospect Heights Hospital and Brooklyn Maternity	106	78
Ridgewood Sanitarium	15	12
Samaritan Hospital of Brooklyn	50	38
St. Catherine's Hospital ★	252	218
St. John's Hospital ★	100 (a)	61
St. Mary's Hospital ★	268	192
St. Peter's Hospital ★	250	200
Swedish Hospital	64	51
Trinity Hospital	50	35
United Israel-Zion Hospital	160	158
Unity Hospital	200	125
Williamsburgh Maternity	50	40
Wyckoff Heights Hospital ★	161	134
Buffalo, 538,016—Erie		
Buffalo City Hospital ★	825	678
Buffalo Columbus Hospital	73	50
Buffalo General Hospital ★	371	250
Buffalo Hospital of the Sisters of Charity ★	215	113
Buffalo Woman's Hospital	30	18
Children's Hospital	124	98
Deaconess Hospital ★	162	150
Emergency Hospital of Sisters of Charity ★	100	81
Erie County Hospital ★	291	277
Lafayette General Hospital	50	36
Memorial Hospital of Buffalo	55	32
Mercy Hospital	28	24
Millard Fillmore Hospital ★	160	147
Parkside Sanitarium (N.& M.)	40	30
Providence Retreat (N.& M.)	200	175
St. Mary's Hospital	89	50
Cambridge, 1,559—Washington		
Mary McClellan Hospital	50	35
Canandaigua, 7,356—Ontario		
Brigham Hall Hospital (N.& M.)	70	50
Canandaigua Health Home	22	19
Frederick Ferris Thompson Hospital	130	85
Canastota, 3,995—Madison		
Canastota Memorial Hospital	13	8
Cassadaga, 428—Chautauqua		
Newton Memorial Hospital (T.B.)	90	84
Castile, 1,013—Wyoming		
Sanitarium at Castile	100	40
Central Valley, 800—Orange		
Dr. MacDonald's House (N.& M.)	30	30
Chappaqua, 733—Westchester		
Elizabeth Milbank Anderson Home for Convalescent Children	175	145
Chenango Bridge, 360—Broome		
Broome County Tuberculosis Hospital	78	60
Churchville, 565—Monroe		
Convalescent Home of Rochester	12	7
Clifton Springs, 1,628—Ontario		
Clifton Springs Sanitarium and Clinic ★	375	250
Cohoes, 23,345—Albany		
Cohoes Hospital	60	35
Cold Spring, 1,422—Putnam		
Julia L. Butterfield Memorial Hospital	24	5
Loretto Rest	14	7
Cooperstown, 2,725—Otsego		
Thanksgiving Hospital	28	New
Corning, 15,722—Steuben		
Corning Hospital	85	40
Cornwall, 2,658—Orange		
Dr. Winter's Neurological Hosp.	14	14
Corona, —— — Queens		
Dr. Combes' Sanitarium (N.& M.)	62	62
Cortland, 13,879—Cortland		
Cortland County Hospital	70	48
Cortland Sanitarium (N.& M.)	12	10
Cuba, 1,611—Allegany		
Cuba Memorial Hospital	16	8
Dansville, 4,681—Livingston		
Dansville General Hospital	22	15
Delhi, 1,669—Delaware		
Delaware Co. Sanatorium (T.B.)	28	4
Dobbs Ferry, 4,401—Westchester		
Dobbs Ferry Hospital	50	25
Dunkirk, 19,912—Chautauqua		
Brook's Memorial Hospital	55	35
East Aurora, 3,703—Erie		
The Hanavan Sun Cure Sanatorium (T.B.)	38	28
Eastview, —— —Westchester		
Solomon and Betty Loeb Memorial Home for Convalescents	107	101
Elmira, 48,359—Chemung		
Arnot-Ogden Memorial Hosp. ★	110	75
Chemung Sanatorium (T.B.)	32	28
Federation Farm (T.B.)	22	22
Gleason Health Resort	40	25
St. Joseph's Hospital	152	130
Endicott, 15,627—Broome		
Endicott General Hospital	15	12
Farmingdale, 2,091—Nassau		
Nassau County Sanat. (T.B.)	110	90
Far Rockaway, —— — Queens		
St. Joseph's Hospital	73	47
Flushing, —— — Queens		
Flushing Hospital and Dispensary ★	107	106
Fulton, 12,571—Oswego		
Albert Lindley Lee Memorial Hospital	35	20
Gabriels, 200—Franklin		
Sanatorium Gabriels (T.B.)	110	100
Geneva, 15,908—Ontario		
Geneva General Hospital	57	40
Glen Cove, 8,664—Nassau		
Glen Cove Community Hospital	20	2
Glens Falls, 17,851—Warren		
Glen Falls Hospital	75	60
Gloversville, 22,110—Fulton		
Nathan Littauer Hospital	55	51
Summit View Sanatorium (T.B.)	22	21
Goshen, 2,843—Orange		
Goshen Emergency Hospital	22	11
Interpines Sanitarium (N.& M.)	56	50
Dr. L. J. Kiernan's Health Farm	12	6
Greenport, 3,122—Suffolk		
Eastern Long Island Hospital	22	15
Harmon-on-Hudson, 110—Westchester		
Crichton House (N.& M.)	16	12
Harrison, 1,485—Westchester		
Dr. Brook's House (N.& M.)	10	9
St. Vincent's Retreat (N.& M.)	180	165
Hastings-upon-Hudson, 5,526—Westchester		
Spring Hill Sanitarium (N.& M.)	25	20
Hemstead, 6,382—Nassau		
Mercy Hospital	12	7
Herkimer, 10,910—Herkimer		
Herkimer County Hospital	10	8
Herkimer Memorial Hospital	31	New
Holcomb, —— —Ontario		
Oak Mount Sanatorium (T.B.)	47	42
Holtsville, 142—Suffolk		
Suffolk Sanatorium (T.B.)	92	91
Homer, 2,356—Cortland		
Homer Hospital	12	6

	Total Beds	Av. Beds in Use
Hornell, 15,784—Steuben		
Bethesda Hospital	45	30
St. James' Mercy Hospital	62	29
Steuben Sanitarium	75	45
Hudson, 11,755—Columbia		
Hudson City Hospital	85	50
Huntington, 6,200—Suffolk		
Huntington Hospital Ass'n	35	27
Ilion, 10,426—Herkimer		
Ilion Hospital	25	17
Ithaca, 18,948—Tompkins		
Cayuga Preventorium	30	18
Ithaca City Hospital	105	77
Jamaica (Pop. Incl. in New York City)—Queens		
Mary Immaculate Hosp. Ass'n.	80	82
Queensboro Hospital	40	20
Jamestown, 43,414—Chautauqua		
Jamestown General Hosp. Ass'n.	102	73
Woman's Christian Association Hospital	56	50
Johnson City, 8,587—Broome		
Johnson City General Hospital	141	102
Katonah, 1,400—Westchester		
Hillbourne Farms	15	10
Kingston, 28,099—Ulster		
City of Kingston Hospital	77	48
Our Lady of Victory Sanitarium	90	40
Ulster County Tuberculosis Hospital	22	18
Lackawanna, 20,196—Erie		
Moses Taylor Hospital	29	20
Our Lady of Victory Hospital	90	65
Lake Kushaqua, —— —Franklin		
Stony Wold Sanatorium (T.B.)	111	100
Lake Ronkonkoma, 49—— —Suffolk		
Gary de Vabre Academy (N.& M.)	12	12
Liberty, 2,459—Sullivan		
The Farley Cottage (T.B.)	25	18
O'Donnell Nursing Cottage (T.B.)	20	18
Wilkinson House (T.B.)	25	24
Workmen's Circle Sanat. (T.B.)	100	70
Little Falls, 12,428—Herkimer		
Little Falls Hospital	34	24
Lockport, 21,676—Niagara		
Lockport City Hospital	59	44
Niagara County Sanat. (T.B.)	125	97
Long Island City, (Pop. Incl. in New York City) Queens		
River Crest Sanitarium (N.& M.)	132	112
St. John's Long Island City Hospital ★	197	155
Loomis, 200—— —Sullivan		
Loomis Sanatorium (T.B.)	230	210
Lyons, 4,253—Wayne		
Edw. J. Barber Hospital	16	10
Lyons Hospital	15	8
Malone, 7,556—Franklin		
Alice Hyde Memorial Hospital	35	23
Mamaroneck, 6,571—Weschester		
Waldemere (N.& M.)	21	12
Marcy, 112—— —Oneida		
Camp Healthmore (T.B.)	38	30
Medford Station, —— —Suffolk		
Medford Tuberculosis Sanat.	50	30
Medina, 6,237—Orleans		
Medina Memorial Hospital	25	6
Middle Grove, 217—Saratoga		
Saratoga Co. Tuberculosis Hosp.	53	53
Middletown, 20,412—Orange		
Middletown Sanitarium	50	25
Thrall Hospital	34	21
Mineola, 3,016—Nassau		
Mineola Home (for Cardiacs)	56	50
Nassau Hospital ★	114	77
Mineville, 1,844—Essex		
Mineville Hospital	14	8
Monticello, 2,330—Sullivan		
Monticello Hospital	20	10
Mt. Ki [illegible]		
The [illegible]	50	24
Mt. V[illegible]		
Mt. Vernon Hospital ★	110	72
Mt. Vision, 250—Otsego		
Otsego County Sanat. (T.B.)	26	18
Newburgh, 30,419—Orange		
Estelle and Walter C. Odell Memorial Sanatorium (T.B.)	48	36
St. Luke's Hospital	110	82
New Hartford, 1,621—Oneida		
Children's Hospital and Home of Utica	25	15
New Rochelle, 44,222—Westchester		
New Rochelle Hospital ★	115	72
New York City, 5,873,356—New York		
Babies' Hospital	80	67
Beekman Street Hospital	55	42
Bellevue Hospital ★	1,582	1,480
Bellevue Settlement House (T.B.)	22	20
Beth David Hospital	88	78
Beth Israel Hospital ★	137	109
Boyce Sanitarium	13	8
Broad Street Hospital	110	85
Bronx Eye and Ear Infirmary	30	9
Bronx Hospital and Dispensary	86	69
Bronx Maternity Hospital	28	22
Bronx Sanitarium	20	12
Dr. Brunor's Sanitarium	20	10
Central Park West and Towns Hospital	50	32
Columbus Hospital	100	58
Columbus Hospital Extension	100	50
Community Hospital	83	78
Concourse Sanitarium	50	30
Fifth Avenue Hospital ★	224	165
Floating Hospital	32	25
Fordham Hospital ★	340	284
French Hospital ★	106	100
Gouverneur Hospital ★	215	195
Harlem Eye and Ear Hospital	48	25
Harlem Hospital ★	262	185
Harlem Italian Sanitarium	34	20
Hebrew Convalescent Home	50	45
Hebrew Knapp Memorial Eye Hospital	45	36
Hill Sanatorium	40	20
Hospital and House of Rest for *Consumptives*	85	83
Hospital for Joint Diseases †	286	165
Hospital of St. Elizabeth of Hungary	50	25
House of Calvary	100	81
House of the Annunciation	30	25
House of the Holy Comforter	90	80
Hunts Point Hospital	84	50
The Infantorium	40	35
Italian Hospital of Borough of Manhattan ★	97 (a)	62
Jewish Maternity Hospital	52	34
Jewish Memorial Hospital	116	79
Knickerbocker Hospital ★	108 (a)	66
Lebanon Hospital ★	162	115
Lenox Hill Hospital ★	314	265
Lexington Hospital	44	25
Lincoln Hospital and Home ★	234	184
New York Infirmary for Women and Children ★	130	78
New York Nursery and Child's Hospital	182	135
New York Ophthalmic Hospital	47	5
New York Orthopedic Disp. and Hospital	132	88
New York Polyclinic Med. School and Hospital ★	300	167
New York Post-Graduate Medical School and Hospital ★ †	410	314
New York Skin & Cancer Hosp. †	100	58
New York Society for the Relief of the Ruptured & Crippled †	236	200
Peoples Hospital	55	45
Plaza Hospital	30	20
Presbyterian Hospital ★	255	231
The Reconstruction Hospital	59	35
Rehabilitation Institute and General Hospital	12	6
Riverside Hospital (T.B.)	628	559
Rockefeller Institute for Medical Research	50	28
Roosevelt Hospital ★	377	257
Roosevelt Hotel-Hospital	15	5
Seton Hospital (T.B.)	470	225
Sherman Square Hospital	35	30
Sloane Hospital for Women	164	70
St. Andrew's Convalescent Hosp.	31	18
St. Bartholomew's Clinic and *Hospital*	51	36
St. Francis' Hospital ★	450	273
St. Joseph's Hospital for Consumptives	350	268
St. Luke's Hospital ★	417	346

NEW YORK



Total hospitals in New York, 630; for community use, 456; population per hospital bed, 200; percentage of beds occupied, 74; percentage of counties without hospitals, 9.7.

	Total Beds	Av. Beds in Use
Lloyd Hospital for Mental Patients	21	12
Lutheran Hospital of Manhattan	103	58
Lying-in Hospital	156	133
Madison Sanitarium	18	12
Manhattan Eye, Ear and Throat Hospital †	186	146
Manhattan Maternity & Dispensary †	35	32
Manhattan Square Sanatorium	30	20
Mem. Hosp. for Treatment of Cancer and Allied Diseases	104	24
[illegible] ★	1,665	1,037
[illegible]	38	17
[illegible]	282	180
[illegible] Diseases †	794	744
Mt. Sinai Hospital ★ †	667	530
Neurological Hospital	500	489
Neurological Institute of New York (N.& M.)	84	72
New Lloyd's Sanitarium	65	40
New York City Cancer Institute Hospital	200	130
New York City Children's Hospital (N.& M.)	1,688	1,302
New York City Hospital ★	1,027	748
New York Eye and Ear Infirmary †	175	125
New York Homeopathic Medical College and Flower Hospital ★	189	147
New York Hospital ★	306	235
St. Mark's Hospital ★	160	130
St. Mary's Free Hospital for Children	130	91
St. Rose's Free Home for Incurable Cancer	89	85
St. Vincent's Hospital ★	350	300
The Tonsil Hospital	35	20
Union Hospital of Bronx	59	48
Victoria Apartments (T.B.)	19	18
West Hill (Riverdale Sanitarium (N.& M.)	23	19
Willard Parker and Reception Hospitals	610	209
Woman's Hospital	205	156
Dr. Yasuna's Maternity Hospital	20	7
Niagara Falls, 57,033—Niagara		
Mt. St. Mary's Hospital	144	70
Niagara Falls Memorial Hospital	106	70
Niagara Falls Municipal Hosp.	42	9
North Tonawanda, .17,356—Niagara		
De Graff Memorial Hospital	26	14
Norwich, 8,268—Chenango		
Norwich Memorial Hospital	36	21
Nyack, 4,444—Rockland		
Nyack Hospital	75	28
Ogdensburg, 17,047—St. Lawrence		
A. Barton Hepburn Hospital	158	120
Olean, 21,332—Chattaraugus		
The Mountain Clinic Hospital	35	29
Olean General Hospital	75	41
Rocky Crest Sanatorium (T.B.)	50	47

	Total Beds	Av.Beds in Use
Oneida, 10,656—Madison		
Broad Street Hospital	55	40
Oneida City Hospital	14	8
Oneonta, 12,057—Otsego		
Aurelia Osborn Fox Memorial Hospital	47	33
Parshall Private Hospital	30	18
Onondaga, 250—Onondaga		
Onondaga County Hospital	85	80
Orwell, 1,029—Oswego		
Ideal Rest Sanatorium and Hospital (T.B.)	112	35
Ossining, 12,769—Westchester		
Ossining Hospital	44	35
Oswego, 22,369—Oswego		
Oswego Hospital	61	41
Otisville, 250—Orange		
Dr. Cahill's Private Sanitarium (T.B.)	25	20
Municipal Sanat. of of the Dept. of Health (T.B.)	565	512
Owego, 4,147—Tioga		
Glenmary Sanitarium (N.& M.)	20	14
Peekskill, 17,993—Westchester		
Noyes Memorial Home	30	20
Peekskill Hospital	65	30
Pelham Manor, 1,754—Westchester		
Pelham Home for Children	32	29
Penn Yan, 4,517—Yates		
Soldiers and Sailors Memorial Hospital	37	24
Perrysburg, 271—Cattaraugus		
J. N. Adams Memorial (T.B.)	550	375
Philmont, 1,919—Columbia		
Columbia Sanatorium (T.B.)	46	36
Plattsburg, 11,552—Clinton		
Champlain Valley Hospital	75	60
Physicians' Hospital	43	23
Pomona, 145—Rockland		
Summit Park Sanatorium (T.B)	46	45
Potsdam, 4,039—St. Lawrence		
Potsdam Hospital	12	6
Poughkeepsie, 35,670—Dutchess		
The Sadlier Hospital	10	8
Samuel W. Bowne Memorial Hospital (T.B.)	127	127
St. Francis' Hospital	85	65
Vassar Brothers Hospital ★	181	108
Pt. Chester, 19,283—Westchester		
United Hospital ★	100	72
Pt. Jefferson, 2,156—Suffolk		
St. Charles Hospital for Crippled Children & Brooklyn Home for Blind and Defective Children	320	230
Pt. Jervis, 10,507—Orange		
Deer Park Sanitarium	20	10
St. Francis Hospital	61	30
Rainbow Lake, 25—Franklin		
Rainbow Sanatorium (T.B.)	50	30
Remsen, 448—Oneida		
Whitesboro Sanitarium	20	9
Rhinebeck, 1,397—Dutchess		
Holiday Farm, Home for Convalescent Children	50	45
Thompson Hospital	12	7
Richland, —— —Oswego		
Oswego County Sanitarium (T.B.)	125	82
Richmond Hill, —— —Queens		
Jamaica Hospital	123	110
Rochester, 316,786—Monroe		
Highland Hospital ★	171	134
Lee Private Hospital	65	45
Monroe County Hospital	250	223
Monroe County Tuberculosis Sanatorium	285	251
Park Avenue Clinical Hospital	81	71
Rochester General Hospital ★	268	225
Rochester Homeopathic Hosp.★	120	110
Rochester Municipal Hospital	114	30
St. Mary's Hospital ★	179	118
Strong Memorial Hospital ★	230	New
Rockaway Beach, —— —Queens		
Neponsit Beach Hosp. for Children (T.B.)	120	100
Rockaway Beach Hospital and Dispensary	100	70
Rockville Center, 6,262—Nassau		
Rockville Center Sanitarium	20	15
Rome, 30,328—Oneida		
Oneida County Hospital	175	140
Rome Hospital	50	32
Rome Infirmary	42	22
Salamanca, 9,276—Cattaraugus		
City Hospital	26	23
Salisbury Center, 300—Herkimer		
Pine Crest Sanatorium (T.B.)	68	68
Santa Clara, 150—Franklin		
Vacation Home for Tuberculous Working Girls	57	48
Saranac Lake, 4,983—Franklin		
General Hospital of Saranac Lake	20	10
Reception Hospital (T.B.)	20	20
St. Mary's of the Lake (T.B.)	30	28
Saratoga Springs, 13,884—Saratoga		
Dr. R. H. McCarty's Hospital	25	12
Saratoga Hospital	83	47
Schenectady, 92,786—Schenectady		
Ellis Hospital ★	239	154
Glenridge Sanatorium (T.B.)	112	100
Isolation Hospital	32	8
Sea Cliff, 2,108—Nassau		
Country Home for Convalescent Babies	38	38
Seneca Falls, 6,389—Seneca		
Seneca Falls Hospital	21	10
Sherburne, 1,104—Chenango		
Brookside Crest Sanitarium (T.B.)	22	16
Sodus, 1,329—Wayne		
Northern Wayne Hospital	35	20
Southampton, 2,635—Suffolk		
Southampton Hospital	57	33
St. Joseph's —— —Sullivan		
St. Joseph's Sanatorium	225	175
Staten Island, 115,959—Richmond		
Richmond Memorial Hospital	26	7
Sailor's Snug Harbor Hospital	250	150
Seaside Hospital	200	160
Sea View Hospital (T.B.)	1,000	907
Staten Island Hospital ★	162	109
St. Vincent's Hospital	87	65
Suffern, 3,154—Rockland		
Good Samaritan Hospital	36	18
Syracuse, 182,003—Onondaga		
City Hospital	162	60
Crouse-Irving Hospital	170	160
General Hospital of Syracuse	69	50
Hospital of the Good Shepherd ★	250	178
Onondaga General Hospital	30	21
Onondaga Sanatorium (T.B.)	168	165
Peoples Hospital	33	16
St. Joseph's Hospital	50	46
St. Mary's Maternity and Infant Hospital	25	20
Syracuse Memorial Hospital ★	139	109
Tarrytown, 5,807—Westchester		
Tarrytown Hospital	44	22
Taughannock Falls, —— —Tompkins		
Tompkins County Tuberculosis Hospital	32	27
Ticonderoga, 2,102—Essex		
The Moses-Ludington Hospital	40	20
Troy, 72,223—Rensselaer		
Leonard Hospital	54	40
Marshall Sanitarium (N.& M.)	60	35
Samaritan Hospital ★	166	107
Troy Hospital	250	150
Trudeau, 225—Essex		
Trudeau Sanatorium (T.B.)	150	150
Tuckahoe, 3,509—Westchester		
St. Eleanora's Home for Convalescents	50	50
Tupper Lake, 2,508—Franklin		
Mercy General Hospital	20	9
Tuxedo Park, 2,000—Orange		
Tuxedo Memorial Hospital	27	16
Utica, 101,604—Oneida		
Faxton Hospital	130	86
St. Elizabeth's Hospital	93	67
Utica General Hospital	118	47
St. Luke's Home & Hospital	123	80
Utica Homeopathic Hospital	63	45
Valhalla, 600—Westchester		
Grasslands Hospital ★	400	319
Milbank Memorial Home for Convalescent Boys	50	New
Warsaw, 3,622—Wyoming		
Wyoming Co. Community Hosp.	55	29
Warwick, 2,420—Orange		
Warwick Hospital and Clinic	22	15
Waterloo, 3,931—Seneca		
Waterloo Memorial Hospital	15	7
Watertown, 32,836—Jefferson		
House of the Good Samaritan.	102	89
Jefferson Co. Tuberculosis Sanatorium	36	24
Mercy Hospital	94	50
Wellsville, 5,046—Allegany		
Jones' Memorial Hospital	32	19
Wellsville Sanitarium	30	15
West Haverstraw, 2,018—Rockland		
New York State Orthopedic Hospital	192	192
White Plains, 27,428—Westchester		
Bloomingdale Hosp. (N.& M.) †	350	278
Blythedale Home for Convalescent Crippled Children	60	45
Campbell Convalescent Cottages	85	80
Mary Zinn Home for Convalescent Children	43	40
Dr. Meyer's Private Hospital	36	27
New York Orthopedic Dispensary and Hospital	166	165
St. Agnes' Hospital	210	150
White Plains Hospital Ass'n	103	55
Winifred Masterson Burke Relief Foundation	290	266
Whitestone, —— —Queens		
Dr. Harrison's Sanitarium (N.& M.)	35	30
Williamsville, 1,105—Erie		
The Josephine Goodyear Convalescent Home	40	35
Woodhaven, —— —Queens		
St. Anthony's Hospital (T.B.)	372	350
Wynantskill, 190—Rennsselaer		
Pawling Sanitarium (T.B.)	185	163
Yonkers, 113,647—Westchester		
Neustadter Convalescent Home	58	39
Sprain Ridge Hospital (T.B.)	24	21
St. John's Riverside Hospital ★	100	75
St. Joseph's Hospital ★	101 (a)	60
Yonkers City Hospital for Communicable Diseases	100	25
Yonkers Homeopathic Hospital and Maternity	123	57
Yonkers Tuberculosis Hospital	58	38
Five General Hospitals of less than 10 beds	35	17
Total for community use, 456	55,744	41,375

In New York the following six counties have no hospitals for community use: Greene, Hamilton, Lewis, Schoharie, Tioga, Yates.

NORTH CAROLINA

	Total Beds	Av.Beds in Use
Asheboro, 2,559—Randolph		
Memorial Hospital	23	20
Asheville, 31,474—Buncombe		
Ambler Heights Sanat. (T.B.)	50	35
Appalachian Hall (N.& M.)	50	30
Asheville Mission Hospital	100	55
Blue Ridge Hospital	20	15
Edgewood Cottage (T.B.)	20	18
Fairview Cottage Sanitarium (T.B.)	120	105
French Broad Hospital, Inc.	63	42
Highland Hospital (N.& M.)	80	56
Meriwether Hospital	53	29
St. Joseph's Sanatorium (T.B.)	50	35
Stonehedge Sanitarium (T.B.)	24	18
Strawberry Hill Sanat. (T.B.)	25	12
Sunset Heights, Inc. (T.B.)	30	25
Sunset Lodge (T.B.)	12	5
Violet Hill Sanatorium (T.B.)	27	20
Winyah Sanatorium (T.B.)	100	70
Zephyr Hill Sanatorium (T.B.)	38	24
Banners Elk, 162—Avery		
Grace Hospital	15	10
Biltmore, 172—Buncombe		
Biltmore Hospital	44	30
Hillcroft Sanatorium (T.B.)	54	50
Black Mountain, 531—Buncombe		
Beallmont Park Sanat. (N.& M.)	20	15
Cragmont Sanatorium (T.B.)	40	30
Brevard, 1,658—Transylvania		
Brevard Hospital	15	8
Bryson City, 882—Swain		
Bryson City Hospital	20	8
Burlington, 5,952—Alamace		
Rainey Hospital	28	18
Charlotte, 53,318—Mecklenburg		
Charlotte E. E. and T. Hospital	20	12
Good Samaritan Hospital	50	28
Mercy Hospital	60	40
New Charlotte Sanatorium	75	75
Presbyterian Hospital	100	46
St. Peter's Hospital	55	43
Concord, 9,903—Cabarrus		
The Concord Hospital	25	8
Duke, 500—Harnett		
Good Hope Hospital	20	9
Durham, 42,258—Durham		
Lincoln Hospital	100	40
Watts' Hospital ★	118	87
Elizabeth City, 8,925—Pasquotank		
Elizabeth City Hospital	50	20
Elkin, 1,195—Surry		
Elkin Hospital	15	9
Fayetteville, 8,877—Cumberland		
Cumberland General Hospital	35	15
Highsmith Hospital	50	35
Pittman Hospital, Inc	60	45
Fletcher, 50—Henderson		
Asheville Agricultural School and Mountain Sanatorium	20	7
Franklin, 773—Macon		
Angel's Hospital	30	20
The Lyle Hospital	20	10
Gastonia, 16,899—Gaston		
City Hospital	70	40
Gaston County Colored Hospital	23	12
Gaston County Sanatorium	30	15
North Carolina Orthopedic Hospital for Crippled Children of Sound Minds	60	60
Goldsboro, 14,234—Wayne		
Goldsboro City Hospital	35	15
Spicer's Sanatorium	30	20
Greensboro, 47,132—Guilford		
Glenwood Park Sanitarium (N.& M.)	35	25
Reaves E, E, N. and T. Infirmary	15	8
St. Leo's Hospital	100	88
Wesley Long Hospital	35	25
Williams Private Sanitarium	20	10
Greenville, 5,772—Pitt		
Pitt Community Hospital	21	10
Halifax, 299—Halifax		
Halifax County Tuberculosis Sanitarium	20	18
Hamlet, 3,659—Richmond		
Hamlet Hospital	75	35
Moncure Hospital	10	5
Henderson, 5,222—Vance		
Jubilee Hospital	15	10
Maria Parham Hospital	30	New
Hendersonville, 3,720—Henderson		
Dixon Health Resort	20	12
Edgemont Sanatorium (T.B.)	25	15
Patton Memorial Hospital	40	18

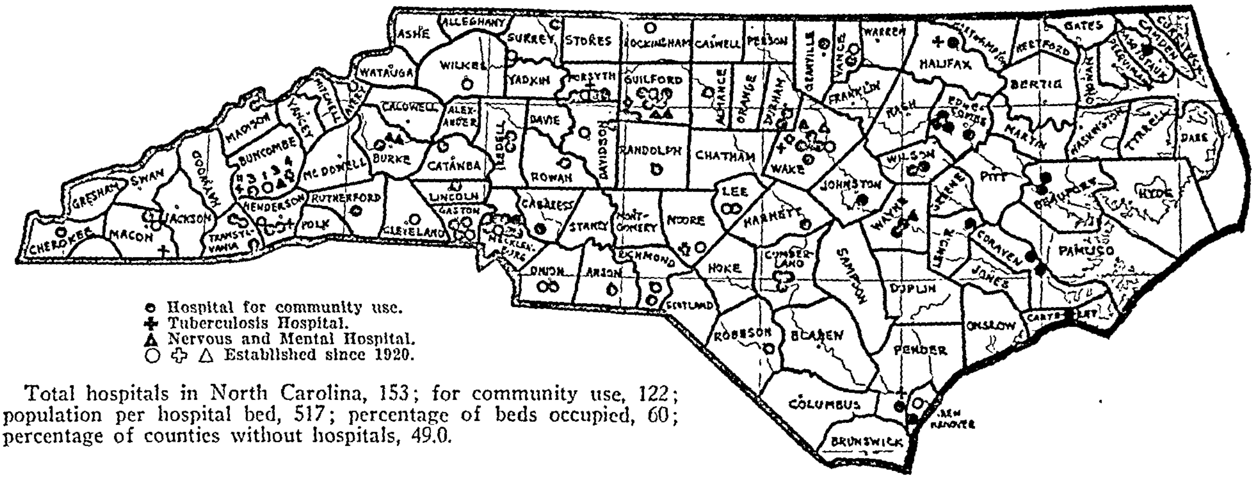
	Total Beds	Av. Beds in Use
Hickory, 5,076—Catawba		
Richard Baker Hospital	35	20
Highlands, 504—Macon		
Brookside Camp (T.B.)	20	10
High Point 23,646—Guilford		
Guilford General Hospital	35	20
High Point Hospital	62	52
Jamestown, 150—Guilford		
Guilford County Sanatorium (T.B.)	66	55
Kinston, 9,771—Lenoir		
Parrott Memorial Hospital, Inc.	40	20

	Total Beds	Av. Beds in Use
Whiterock, 72—Madison		
Laurel Hospital	20	10
Wilmington, 37,061—New Hanover		
The Bulluck Hospital	35	16
Community Hospital	20	10
James Walker Memorial Hosp.★	134	75
Red Cross Sanatorium (T.B.)	25	14
Wilson, 12,818—Wilson		
Carolina General Hospital	45	25
Moore-Herring Hospital	25	12
Wilson Hospital and Tubercular Home	20	15

NORTH DAKOTA

	Total Beds	Av. Beds in Use
Arvilla, —— —Grand Forks		
Grand Forks County Hospital	50	40
Bismarck, 6,951—Burleigh		
Bismarck Evangelical Hosp.★	140	120
St. Alexius Hospital	109	96
Bottineau, 1,172—Bottineau		
St. Andrew's Hospital	35	15
Carrington, 1,420—Foster		
Carrington Hospital	20	10

NORTH CAROLINA



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in North Carolina, 153; for community use, 122; population per hospital bed, 517; percentage of beds occupied, 60; percentage of counties without hospitals, 49.0.

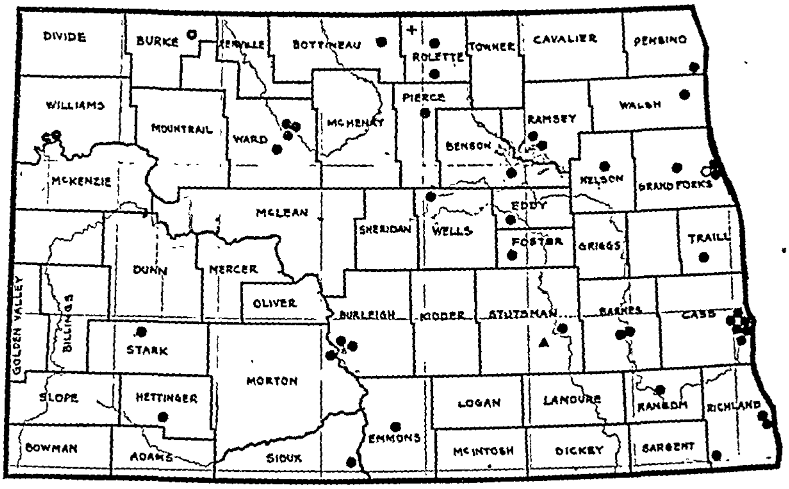
	Total Beds	Av. Beds in Use
Leaksville, 1,606—Rockingham		
Leaksville Hospital, Inc.	27	11
Lexington, 5,254—Davidson		
Davidson Hospital	24	11
Lincolnton, 3,390—Lincoln		
Lincoln Hospital	35	17
Lumberton, 2,691—Robeson		
The Baker Sanatorium	65	42
Monroe, 4,084—Union		
Ellen Fitzgerald Hospital	70	28
Quality Hill Sanatorium	20	4
Morehead City, 2,958—Carteret		
Morehead City Hospital	25	15
Morganton, 2,867—Burke		
Broadoaks Sanatorium (N.& M.)	65	46
Grace Hospital	50	25
Mt. Airy, 4,752—Surry		
Martin Memorial Hospital	50	31
Murphy, 977—Cherokee		
Murphy Hospital	10	4
New Bern, 12,218—Craven		
New Bern General Hospital	21	8
St. Luke's Hospital	25	11
Northwilkesboro, 2,363—Wilkes		
The Wilkes Hospital	20	14
Oxford, 3,606—Granville		
Brantwood Hospital	25	16
Raleigh, 30,371—Wake		
Mary Elizabeth Hospital	30	20
McCauley Private Hospital	12	8
Rex Hospital ★	125	72
St. Agnes' Hospital	93	57
Roanoke Rapids, 3,369—Halifax		
Roanoke Rapids Hospital	50	39
Rocky Mount, 15,115—Edgecombe		
Atlantic Coast Line Hospital	50	31
Park View Hospital	70	50
Rocky Mount Sanitarium	40	25
Rutherfordton, 1,693—Rutherford		
Rutherford Hospital	60	35
Salisbury, 17,696—Rowan		
Salisbury Hospital	55	30
Sanford, 2,977—Lee		
Central Carolina Hospital	24	20
Scott Hospital	28	15
Shelby, 3,609—Cleveland		
Shelby Hospital	45	25
Smithfield, 1,895—Johnston		
Johnston County Hospital	35	New
Smithfield Hospital	19	9
Southern Pines, 743—Moore		
Pine Crest Manor Sanat. (T.B.)	50	44
Statesville, 7,895—Iredell		
Davis Hospital	50	42
Long's [illegible]	50	37
Tarboro, [illegible]		
Edgeco[illegible]		
[illegible]	30	New
[illegible]	35	22
T[illegible]		
[illegible]	12	8
Wadesboro, 2,648—Anson		
Anson Sanatorium	50	21
Washington, 6,166—Beaufort		
River View Hospital	15	10
Washington Hospital	35	15

	Total Beds	Av. Beds in Use
Winston-Salem, 69,031—Forsyth		
City Memorial Hospital	235	98
Forsyth County Tuberculosis Hospital	31	26
Lawrence-Cooke Clinic Hospital	43	20
North Carolina Baptist Hospital	90	45
Wrightsville Sound, —New Hanover		
The Babies' Hospital	25	14
Total for community use, 122	5,334	3,248

In North Carolina the following forty-nine counties have no hospitals for community use: Alexander, Alleghany, Ashe, Bertie, Bladen, Brunswick, Camden, Caswell, Chatham, Clay, Columbus, Currituck, Dare, Davie, Duplin, Franklin, Gates, Graham, Greene, Haywood, Hertford, Hoke, Hyde, Jackson, Jones, McDowell, Mitchell, Montgomery, Nash, Northampton, Onslow, Orange, Pamlico, Pender, Perquimans, Person, Pitt, Polk, Sampson, Scotland, Stanly, Stokes, Swain, Tyrrell, Warren, Washington, Watauga, Yadkin, Yancey.

	Total Beds	Av. Beds in Use
Devils Lake, 5,140—Ramsey		
General Hospital of Devils Lake	30	20
Mercy Hospital and Detention Hospital	50	35
Dickinson, 4,122—Stark		
St. Joseph's Hospital	40	19
Drayton, 637—Pembina		
Drayton Hospital	14	12
Fargo, 26,403—Cass		
Camp Maternity Hospital	15	7
Cass County Hospital	40	30
City Detention Hospitial	50	2
St. John's Hospital ★	100	90
St. Luke's Hospital	150	90
Grafton, 2,512—Walsh		
Grafton Deaconess Hospital	35	20
Grand Forks, 14,811—Grand Forks		
Grand Forks City Hospital	18	5
Grand Forks Deaconess Hospital	85	55
St. Michael's Hospital	57	40
Harvey, 1,590—Wells		
St. Luke's Hospital	14	10

NORTH DAKOTA



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

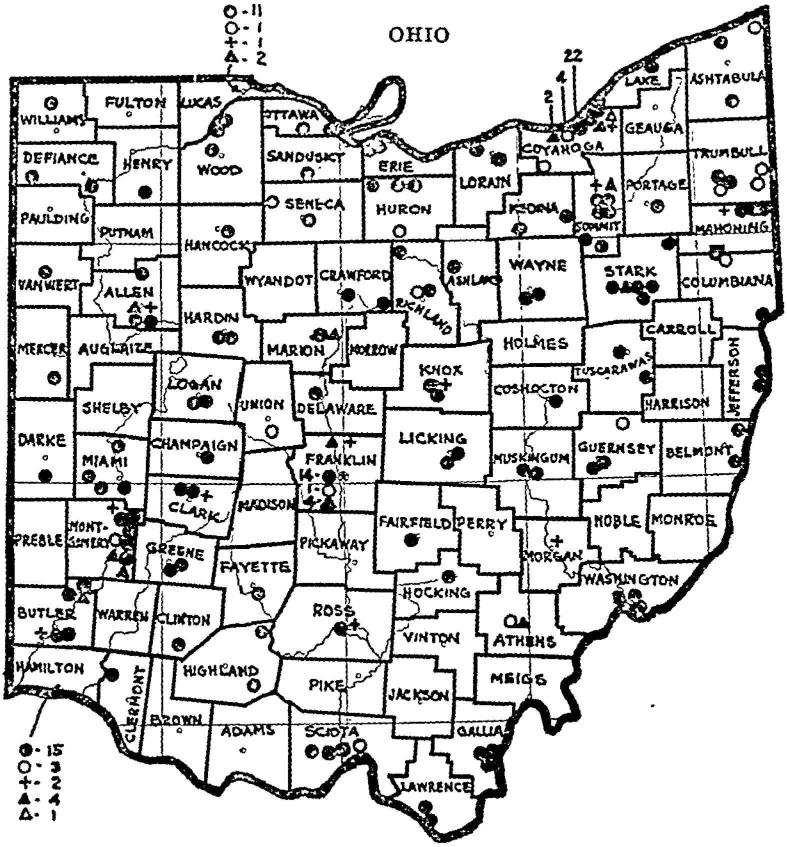
Total hospitals in North Dakota, 52; for community use, 40; population per hospital bed, 419; percentage of beds occupied, 65; percentage of counties without hospitals, 47.1.

	Total Beds	Av.Beds in Use
Jamestown, 6,627—Stutsman		
Trinity Hospital................	50	41
Kenmare, 1,446—Ward		
Kenmare Deaconess Hospital...	50	23
Lidgerwood, 1,065—Richland		
Lidgerwood Hospital...........	15	5
Mandan, 4,336—Morton		
Mandan Deaconess Hospital....	30	15
Mayville, 1,218—Traill		
Union Hospital	12	3
McVille, 546—Nelson		
Community Hospital...........	14	7
Minot, 12,660—Ward		
McCannel's Private Hospital...	16	10
St. Joseph's Hospital...........	72	37
Trinity Hospital	90	81
New England, 613,—Hettinger		
New England Hospital.........	16	9
New Rockford, 2,111—Eddy		
Donahue Hospital..............	14	6
Northwood, 935—Grand Forks		
Northwood Deaconess Hospital.	14	7
Rolette, 409—Rolette		
Hayhurst Hospital.............	10	4
Rugby, 1,424—Pierce		
Good Samaritan Hospital......	40	23
Valley City, 4,686—Barnes		
Barnes County Hospital.......	30	15
Wahpeton, 3,069—Richland		
Wahpeton Hospital............	29	18
Williston, 4,178—Williams		
Mercy Hospital.................	50	25
Wittenberg Hospital...........	14	10
Three General Hospitals of less than 10 beds...................	19	9
Total for community use, 40......	1,637	1,064

In North Dakota the following twenty-five counties have no hospitals for community use: Adams, Billings, Bowman, Cavalier, Dickey, Divide, Dunn, Golden Valley, Griggs, Kidder, La Moure, Logan, McHenry, McIntosh, McKenzie, McLean, Mercer, Mountrail, Oliver, Renville, Sargent, Sheridan, Slope, Steele, Towner.

OHIO

	Total Beds	Av.Beds in Use
Akron, 208,435—Summit		
Children's Hospital & Mary Day Nursery	65	57
City Hospital of Akron ★.......	191	127
Peoples Hospital	154	89
Alliance, 24,979—Stark		
Alliance City Hospital.........	100	40
Amherst, 2,485—Lorain		
Amherst Hospital..............	14	9
Ashland, 9,249—Ashland		
Samaritan Hospital............	35	15
Ashtabula, 25,066—Ashtabula		
Ashtabula General Hospital....	60	41
Athens, 6,418—Athens		
Sheltering Arms Hospital.......	17	5
Barberton, 23,286—Summit		
Citizens Hospital..............	40	19
Bellaire, 16,258—Belmont		
City Hospital of Bellaire.......	45	29
Bellefontaine, 9,336—Logan		
Harbert Hospital...............	10	6
Mary Rutan Hospital..........	21	6
Bellevue, 5,209—Huron		
Bellevue Hospital.............	27	14
Berea, 2,609—Cuyahoga		
The Community Hospital.......	32	10
Bowling Green, 5,788—Wood		
Bowling Green Sanitarium and Hospital	20	5
Bucyrus, 11,729—Crawford		
Monnette Memorial Hospital...	21	8
Cambridge, 14,029—Guernsey		
Cambridge Hospital............	15	4
Lawrence Hospital.............	15	8
Wells Hospital.................	24	16
Canton, 106,260—Stark		
Aultman Memorial Hospital....	160	75
Mercy Hospital.................	73	57
Celina, 4,226—Mercer		
Otis Hospital..................	19	6
Chillicothe, 16,649—Ross		
Chillicothe Hospital...........	42	25
Mt. Logan Sanatorium (T.B.)..	40	30
Cincinnati, 409,333—Hamilton		
Bethesda Hospital & Deaconess Ass'n.★	215	161
Bethesda Medical Hospital.....	65	46
Children's Hospital...........	85	57
Christ Hospital ★..............	145	124
Cincinnati General Hospital ★..	700	481
Cincinnati Sanitarium (N.& M.)	100	91
Cincinnati Tuberculosis Sanat..	281	209
Deaconess Hospital...........	70	55
Derrick T. Vail's Private Hosp.	20	8
Good Samaritan Hospital ★....	216	170
Grandview Hospital (N.& M.)..	40	25
Home for Incurables..........	59	54
Jewish Hospital ★............	242	124
Mithoefer Hospital............	30	30
Murphy Memorial Hospital.....	12	4
Ophthalmic Hospital..........	15	10
Psychopathic Institute of the Jewish Hospital..............	12	10
Rest Cottage (N.& M.)	12	6
Ridge Rest Home (N.& M.).....	13	13
Rockhill Sanatorium (T.B.)....	100	55
St. Francis Hospital for Incurables	357	340
St. Joseph's Maternity Hospital	40	20
St. Mary's Hospital ★.........	165	100
Dr. Edward H. Thompson Private E. E. N. & T. Hospital..	10	8
Cleveland, 936,485—Cuyahoga		
Carnegie Avenue Hospital....	20	14
Children's Fresh Air Camp and Hospital	60	60
Cleveland City Hospital ★......	1,019	830
Cleveland Clinic Hospital......	155	120
Cleveland Maternity Hospital...	60	45
East 55th Street Hospital......	45	16
Emergency Hospital...........	20	15
Euclid Hospital................	14	6
Evangelical Hospital...........	28	13
Evangelical Lutheran Hospital.	110	78
Fairview Park Hospital........	80	64
Flower Hospital	14	8
Glenville Hospital.............	100	73
Grace Hospital................	40	5
Holy Cross House for Crippled and Invalid Children........	40	24
Huron Road Hospital.........	103	63
Joanna Private Hospital and Invalids Home	14	13
Lakeside Hospital ★...........	285	250
Lakewood Public Hospital......	72	54
Mt. Sinai Hospital ★..........	218	199
Provident Hospital............	24	13
St. Alexis Hospital ★.........	220	180
St. Ann's Infant Asylum and Maternity Hospital	75	55
St. John's Hospital ★..........	158	140
St. Luke's Hospital ★..........	165	115
St. Vincent's Charity Hospital ★	300	282
Windsor Sanitarium (N.& M.)..	40	25
Woman's Hospital............	87	70
Columbus, 279,836—Franklin		
Capital City General Hospital...	11	New
Children's Hospital............	75	34
Columbus Radium Hospital....	50	24
Franklin County Sanat. (T.B.).	210	176
Dr. Gaver Sanat. (N.& M.).....	25	20
• Grant Hospital ★.............	303	222
McKinley Hospital............	50	30
McMillen Sanitarium (N.& M.)	40	35
Mercy Hospital................	65	39
Mt. Carmel Hospital ★.........	225	135
St. Ann's Infant and Maternity Hospital	25	18
St. Anthony's Hospital........	264	250
St. Clair Hospital.............	30	15
St. Francis Hospital ★.......	160	115
Starling-Loving University Hosp.	187	48
White Cross Hospital ★........	250	90
Conneaut, 9,343—Ashtabula		
Brown Memorial Hospital......	25	15
Cortland, 750—Trumbull		
Dr. McCurley's Private Hospital	10	4
Coshocton, 11,552—Coshocton		
Coshocton City Hospital.......	42	18
Cuyahoga Falls, 13,700—Summit		
Fair Oaks Villa and Cottages (N & M.)	60	56
Dayton, 172,942—Montgomery		
Dr. Hatcher's Private Hospital.	16	12
Miami Valley Hospital ★......	321	232
Orchard Springs Sanitarium (N.& M.)	29	17
Quarantine Hospital..........	25	1
St. Elizabeth Hospital ★.......	410	370
Stillwater Sanitarium (T.B.)...	75	70
Defiance, 8,876—Defiance		
Defiance Hospital.............	14	9
Delaware, 8,756—Delaware		
Jane M. Case Hospital.........	35	14
Dennison, 5,524—Tuscarawas		
Twin City Hospital............	24	13
Dover, 8,101—Tuscarawas		
Union Hospital................	65	23
East Akron (Akron P.O.) Summit		
Springfield Lake Sanat. (T.B.)	220	181



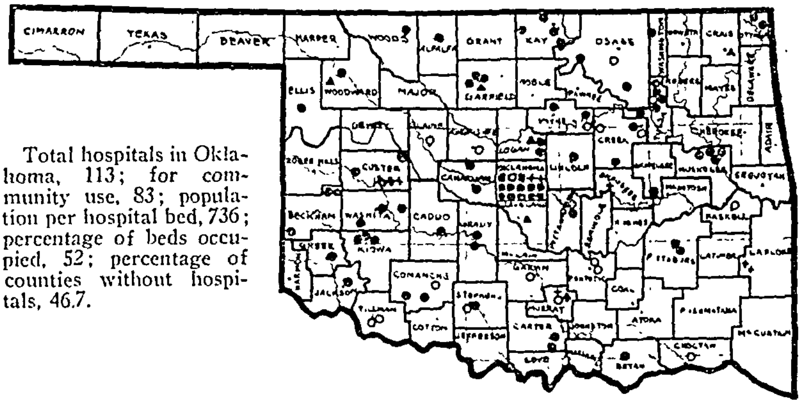
● Hospital for community use. ▲ Nervous and Mental Hospital.
✚ Tuberculosis Hospital. ○ ✚ △ Established since 1920.

Total hospitals in Ohio, 306; for community use, 213; population per hospital bed, 373; percentage of beds occupied, 68; percentage of counties without hospitals, 28.4.

	Total Beds	Av. Beds in Use
East Cleveland, 37,552—Cuyahoga		
Ream Sanatorium (N.& M.)....	12	6
East Liverpool, 21,989—Columbiana		
East Liverpool City Hospital..	75	50
Elyria, 23,832—Lorain		
Elyria Memorial Hospital (Gates Hospital for Crippled Children)	175	87
Euclid, 3,363—Cuyahoga		
Wright's Sanitarium (N.& M.)..	20	10
Findlay, 18,246—Hancock		
The Home and Hospital of the City of Findlay	52	23
Fremont, 13,898—Sandusky		
Memorial Hospital of Sandusky County	50	23
Galion, 7,374—Crawford		
Good Samaritan Hospital......	13	5
Gallipolis, 6,070—Gallia		
Holzer Hospital...............	52	24
Geneva, 3,081—Ashtabula		
Community Hospital...........	20	16
Greenfield, 4,344—Highland		
The Greenfield Hospital........	15	10
Greenville, 7,104—Darke		
Greenville Hospital............	14	6
Hamilton, 42,364—Butler		
Mercy Hospital................	140	80
Ruth Hospital.................	22	10
Hillsboro, 4,356—Highland		
Hillsboro Hospital............	20	7
Ironton, 14,492—Lawrence		
Charles S. Gray Deaconess Hospital	25	14
Marting Hospital..............	20	18
Kenton, 7,690—Hardin		
The McKitrick Hospital........	21	16
San Antonio Hospital..........	17	6
Lancaster, 16,080—Fairfield		
Lancaster Municipal Hospital...	45	17
Lima, 46,717—Allen		
District Tuberculosis Hospital	45	36
Lima Hospital Society........	90	68
St. Rita's Hospital..........	100	60
Lodi, 1,240—Medina		
Lodi Hospital................	10	7
Logan, 5,493—Hocking		
The Cherrington Hospital......	35	15
Lorain, 42,259—Lorain		
St. Joseph's Hospital.........	120	57
Mansfield, 31,820—Richland		
Eleanor Thomas Sanitarium...	20	15
Mansfield General Hospital....	62	53
Marietta, 15,261—Washington		
Marietta Hospital.............	35	16
Tremont Hospital.............	15	8
Washington County Infirmary..	100	50
Marion, 32,511—Marion		
Marion City Hospital..........	50	15
Sawyer Sanatorium (N.& M.)..	50	35
Martins Ferry, 15,549—Belmont		
Martins Ferry Hospital.......	60	45
Marysville, 3,635—Union		
King's Daughters' Hospital.....	10	4
Massillon, 19,326—Stark		
Massillon Hospital............	92	49
McConnelsville, 1,618—Morgan		
Rocky Glen Sanatorium (T.B.).	70	55
Middletown, 30,823—Butler		
Middletown Hospital...........	82	40
Montpelier, 3,052—Williams		
Wertz Hospital...............	10	4
Mt. Vernon, 9,237—Knox		
Hinde-Ball Mercy Hospital....	31	10
Mt. Vernon Hospital-Sanitarium	40	18
Napoleon, 4,132—Henry		
S. M. Heller Memorial Hospital	14	6
Newark, 30,461—Licking		
Newark City Hospital........	50	23
Newark Sanitarium..........	23	14
New London, 1,470—Huron		
New London Hospital.........	10	4
Norwalk, 7,379—Huron		
Norwalk City Hospital.........	23	11
Oberlin, 4,236—Lorain		
Allen Hospital................	25	12
Oxford, 2,146—Butler		
The Oxford Retreat (N.& M)	60	52
Painesville, 7,272—Lake		
Lake County Memorial Hospital	65	47
Perrysburg, 2,429—Wood		
Rheinfrank Hospital..........	12	10
Piqua, 15,979—Miami		
The Ball Memorial Hospital..	40	24
Portsmouth, 39,087—Sciota		
Mercy Hospital..............	66	22
Portsmouth General Hospital...	90	29
Schirrman Hospital...........	50	12
Pt. Clinton, 3,926—Ottawa		
Pool Hospital................	16	9
Ravenna, 7,219—Portage		
Portage County Hospital......	26	16
Salem, 11,075—Columbiana		
The Central Clinic and Hospital	42	25
Salem City Hospital...........	50	35
Sandusky, 24,542—Erie		
Good Samaritan Hospital.......	54	35
Providence Hospital...........	30	12
Shelby, 5;578—Richland		
Shelby Hospital..............	26	18
South Euclid, 1,695—Cuyahoga		
Rainbow Hospital for Crippled and Convalescent Children...	100	87
Springfield, 68,725—Clark		
Clark County Tuberculosis Sanitarium	35	33
Hull Private Hospital..........	15	10
Springfield City Hospital ★.....	132	76
Steubenville, 31,973—Jefferson		
Gill Hospital..................	32	28
Ohio Valley Hospital..........	100	66
Tiffin, 15,552—Seneca		
Mercy Hospital................	35	6
Toledo, 287,380—Lucas		
Alter, E, E, N. and T. Hosp.	13	8
City Isolation Hospital.........	30	10
East Side Hospital...........	26	21
Flower Hospital.............	47	36
Lucas County Branch Hospital.	100	66
Lucas County Hospital ★.......	100	99
Lucas County Tuberculosis Hosp.	112	100
Maternity and Children's Hosp.	53	43
Mercy Hospital...............	100	50
Robinwood Avenue Hospital....	69	48
St. Vincent's Hospital ★.......	350	205
Toledo Hospital ★............	125	78
Toledo Sanitarium (N.& M.)...	30	15
Troy, 7,260—Miami		
Coleman's Hospital...........	11	5
Urbana, 7,621—Champaign		
Champaign County Hospital....	22	10
Van Wert, 8,100—Van Wert		
Van Wert County Hospital.....	45	18
Wadsworth, 4,742—Medina		
Wadsworth Municipal Hospital..	22	11
Warren, 34,679—Trumbull		
St. Joseph's Riverside Hospital.	40	28
Warren City Hospital..........	70	52
Warrensville, 150—Cuyahoga		
Cleveland City Infirmary......	85	83
Cleveland Municipal Tuberculosis Sanatorium (T.B).....	280	230
Washington C. H., 7,962—Fayette		
Hodson Memorial Hospital (Homeopathic)	10	5
Willard, 3,889—Huron		
Blaine Hospital...............	20	8
Wilmington, 5,037—Clinton		
Dr. Kelley Hale Surgical Hosp.	17	10
Wooster, 8,204—Wayne		
Kinney and Knestrick Hospital.	25	15
Wooster Hospital.............	30	16
Worthington, 705—Franklin		
Columbus Sanitarium (N.& M.)	25	15
Xenia, 9,110—Greene		
Espey Hospital	10	7
McClellan Hospital	15	10
Youngstown, 159,970—Mahoning		
St. Elizabeth's Hospital ★......	175	141
Youngstown Hospital ★........	200	200
Zanesville, 30,442—Muskingum		
Bethesda Hospital............	200	80
Good Samaritan Hospital......	125	65
Six General Hospitals of less than 10 beds......................	43	24
Total for community use, 213.....	16,932	11,640

In Ohio the following twenty-five counties have no hospitals for community use: Adams, Auglaize, Belmont, Brown, Carroll, Fulton, Geauga, Harrison, Holmes, Jackson, Madison, Meigs, Monroe, Morgan, Morrow, Noble, Perry, Pickaway, Pike, Preble, Putnam, Shelby, Vinton, Warren, Wyandot.

OKLAHOMA



Total hospitals in Oklahoma, 113; for community use, 83; population per hospital bed, 736; percentage of beds occupied, 52; percentage of counties without hospitals, 46.7.

● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

OKLAHOMA	Total Beds	Av. Beds in Use
Ada, 8,012—Pontotoc		
Ada Hospital..................	25	5
Breco's Hospital.............	20	10
Altus, 4,498—Jackson		
City Hospital.................	25	10
Alva, 3,912—Woods		
Alva Hospital.................	15	7
Ardmore, 17,190—Carter		
Hardy Sanitarium............	60	15
Von Keller Hospital Association	30	15
Bartlesville, 19,182—Washington		
Washington County Memorial Hospital	60	23
Blackwell, 7,174—Kay		
Blackwell Hospital............	35	15
Bristow, 3,460—Creek		
Bristow General Hospital......	18	10
Butler, 332—Custer		
Sunnyside Hospital...........	10	3
Cherokee, 2,017—Alfalfa		
Masonic Hospital.............	50	16
Chickasha, 10,179—Grady		
Chickasha Hospital...........	30	14
Cottage Hospital.............	48	15
Clinton, 2,396—Custer		
Clinton Hospital..............	34	19
Cordell, 1,855—Washita		
Florence Hospital............	30	8
Cushing, 6,326—Payne		
Cushing Municipal Hospital...	35	15
Drumright, 6,460—Creek		
Drumright Hospital...........	12	8
Duncan, 3,463—Stephens		
Ruth Hospital.................	20	12
Weedn Hospital..............	40	20
Durant, 7,340—Bryan		
Durant Hospital..............	35	16
Elk City, 2,814—Beckham		
Tisdal Hospital..............	50	18
El Reno, 7,737—Canadian		
El Reno Sanitarium...........	60	24
Enid, 18,150—Garfield		
Enid General Hospital........	60	40
Enid Springs Sanitarium and Hospital	35	15
University Hospital..........	35	15
Erick, 971—Beckham		
McCreery Hospital............	20	10
Fairfax, 1,342—Osage		
The Fairfax Hospital.........	20	11
Frederick, 3,822—Tillman		
Frederick Hospital...........	30	10
Guthrie, 11,813—Logan		
Duke Sanitarium (N.& M.)....	35	27
Oklahoma Methodist Episcopal Hospital	35	24
Park Sanitarium.............	15	7
Henryetta, 5,889—Okmulgee		
Henryetta Hospital...........	35	15
Hobart, 2,936—Kiowa		
Huffman Hospital............	20	15
Miles Sanitarium.............	15	7
Hominy, 2,875—Osage		
Hominy Hospital.............	21	New
Kingfisher, 2,447—Kingfisher		
Medical and Surgical Hospital	10	4
Lawton, 8,930—Comanche		
Southwestern Hospital.........	30	10
Mangum, 3,405—Greer		
Border Hospital..............	35	17
McAlester, 12,095—Pittsburg		
Albert Pike Hospital..........	50	30
St. Mary's Infirmary..........	20	8
Miami, 6,802—Ottawa		
Miami Baptist Hospital........	50	17

	Total Beds	Av.Beds in Use
Muskogee, 32,175—Muskogee		
Muskogee City Contagious Hosp.	12	5
Muskogee General Hospital	75	50
Oklahoma Baptist Hospital	64	39
Dr. Tilly's Hospital	31	13
Oklahoma City, 91,295—Oklahoma		
Oklahoma City General Hospital	35	20
Oklahoma Cottage Sanat. (T.B.)	55	26
Oklahoma Tuberculosis Hospital	35	35
Oklahoma Lying-in-Hospital	12	6
Rolater Hospital	54	35
St. Anthony's Hospital ★	135	100
St. Luke's Hospital	50	25
State University Hospital ★	286	218
Tillsona Hospital	20	6
Wesley Hospital	55	40
Okmulgee, 25,269—Okmulgee		
Okmulgee City Hospital	65	35
Pauls Valley, 3,694—Garvin		
The Pauls Valley Sanitarium	15	4
Pawhuska, 6,414—Osage		
Pawhuska Municipal Hospital	50	21
Picher, 9,676—Ottawa		
American Hospital	40	20
Ponca City, 7,051—Kay		
Ponca City Hospital	38	25
Sand Springs, 4,076—Tulsa		
Home Hospital	30	21
Sapulpa, 14,207—Creek		
Employees' Hospital	28	10
Sentinel, 896—Washita		
Sentinel Hospital	12	7
Shattuck, 1,365—Ellis		
The Shattuck Hospital	18	10
Shawnee, 16,976—Pottawatomie		
Shawnee City Hospital	70	40
Stillwater, 4,701—Payne		
Stillwater Hospital	20	15
Sulphur, 3,684—Murray		
Williamson Hospital-Clinic	30	15
Thomas, 1,223—Custer		
The Thomas Hospital	20	10
Tulsa, 124,478—Tulsa		
Flower Hospital, Inc.	25	New
Grandview Hospital	55	17
Maurice Willows Hospital	25	13
Morningside Hospital	75	40
Oklahoma Hospital	52	30
Physicians and Surgeons Hosp.	30	26
Watonga, 1,678—Blaine		
Watonga Hospital	15	3
Woodward, 3,849—Woodward		
Woodward General Hospital	25	10
Yale, 2,601—Payne		
Mable Dale Hospital	14	3
Six General Hospitals of less than 10 beds	37	19
Total for community use, 83	3,041	1,592

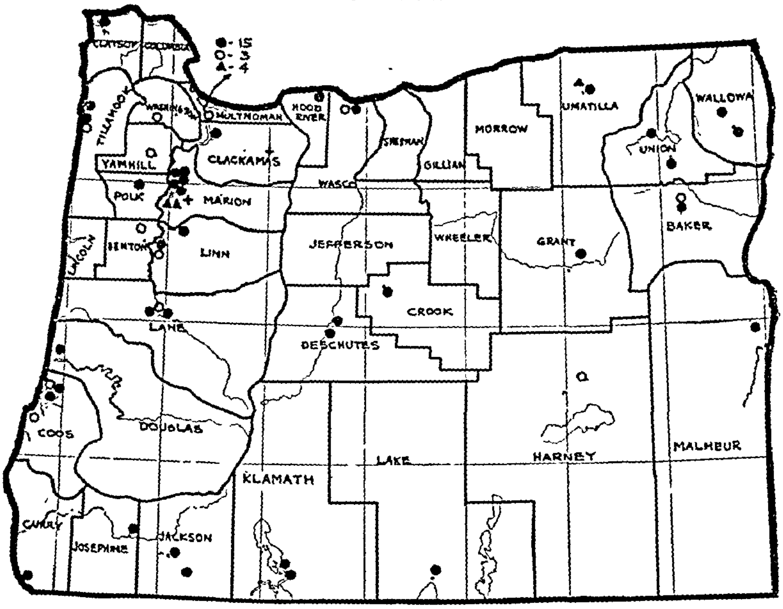
In Oklahoma the following thirty-six counties have no hospitals for community use: Adair, Atoka, Beaver, Cherokee, Cimarron, Cleveland, Coal, Cotton, Craig, Delaware, Dewey, Grant, Harmon, Harper, Hughes, Jefferson, Johnston, Latimer, Le Flore, Love, McClain, McCurtain, McIntosh, Major, Marshall, Mayes, Noble, Nowata, Okfuskee, Pawnee, Pushmataha, Roger Mills, Rogers, Seminole, Sequoyah, Texas.

OREGON

	Total Beds	Av Beds in Use
Albany, 4,840—Linn		
Albany General Hospital, Inc.	30	17
St. Mary's Hospital	20	10
Ashland, 4,283—Jackson		
Community Hospital	18	10
Astoria, 16,535—Clatsop		
St. Mary's Hospital	92	60
Baker, 7,729—Baker		
Baker County Protestant Hosp.	24	12
St. Elizabeth's Hospital	63	35
Bend, 5,415—Deschutes		
Lumbermen's Hospital	21	7
St. Charles Hospital	25	13
Brookings, 515—Curry		
Southern Curry Hospital	12	5
Burns, 1,022—Harney		
Valley View Hospital	12	5
Corvallis, 5,752—Benton		
Anderson Surgical Hospital	10	6
Dallas, 2,527—Polk		
The Dallas Hospital	16	7
Enterprise, 1,895—Wallowa		
Enterprise Hospital	20	4
Eugene, 11,421—Lane		
Eugene Hospital	53	40
Mercy Hospital	60	27
Pacific Christian Hospital	48	40
Forest Grove, 1,775—Washington		
Via Hospital	20	10
Grants Pass, 3,151—Josephine		
Good Samaritan Hospital	12	6
Hood River, 3,195—Hood River		
Hood River Hospital	20	10
Hot Lake, 21—Union		
Hot Lake Sanatorium	65	58
Klamath Falls, 4,801—Klamath		
Klamath General Hospital	30	16
Klamath Valley Hospital	30	20
La Grande, 6,913—Union		
Grande Ronde Hospital	50	30
Lakeview, 1,139—Lake		
Lakeview Public Hospital	12	4
Marshfield, 4,034—Coos		
Smedberg Sanitarium	15	12
Wesley Hospital	55	20
McMinnville, 2,400—Yamhill		
McMinnville Hospital	21	12
Medford, 13,304—Jackson		
Sacred Heart Hospital	55	35
Milwaukee, 1,172—Clackamas		
Portland Open Air Sanitarium (T.B.)	76	67
North Bend, 3,268—Coos		
Keizer Brothers Hospital	40	37
Mercy Hospital	50	16
Ontario, 2,039—Malheur		
Holy Rosary Hospital	35	25
Oregon City, 5,686—Clackamas		
Oregon City Hospital	50	35
Pendleton, 7,387—Umatilla		
St. Anthony's Hospital	81	33
Portland, 282,383—Multnomah		
City of Portland Emergency Hospital	10	5
Derr Sanitarium	20	10
Elvers Sanitarium	12	3
Emanuel Hospital ★	100	76
Good Samaritan Hospital ★	314	263
Dr. House's Sanat. (N.& M.)	18	15
Isolation Hospital	70	20
Morningside Hospital (N.& M.)	280	247
Mountain View Sanitarium (N.& M.)	22	18
Multnomah County Hospital ★	185	165
Portland, E, E, N. & T. Hosp.	35	15
Portland Maternity Hospital	18	12
Portland Medical Hospital	35	34
Portland Sanitarium ★	100	80
Portland Surgical Hospital	70	55
Shriners Hospital for Crippled Children	50	50
St. Vincent's Hospital ★	370	325
Waverleigh Sanat. (N.& M.)	10	3
Woman's Hospital	35	17
Prairie City, 643—Grant		
Grant County Hospital	12	5
Prineville, 1,144—Crook		
Home Hospital	12	4
Roseburg, 4,381—Douglas		
Mercy Hospital	25	16
Salem, 19,709—Marion		
Salem Deaconess Hospital	90	50
Salem Hospital	50	48
Williamette Sanatorium	30	16
Silverton, 2,251—Marion		
Silverton Hospital	20	14
The Dalles, 5,807—Wasco		
The Dalles Hospital	70	40
Hamilton Hospital	20	20
Tillamook, 1,930—Tillamook		
Boals Hospital	52	18
Tillamook General Hospital	15	10
Toledo, 678—Lincoln		
Lincoln Hospital	20	New
Two General Hospitals of less than 10 beds	16	8
Total for community use, 67	3,427	2,406

In Oregon the following seven counties have no hospitals for community use: Columbia, Gilliam, Jefferson, Lincoln, Morrow, Sherman, Wheeler.

OREGON



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✣ △ Established since 1920.

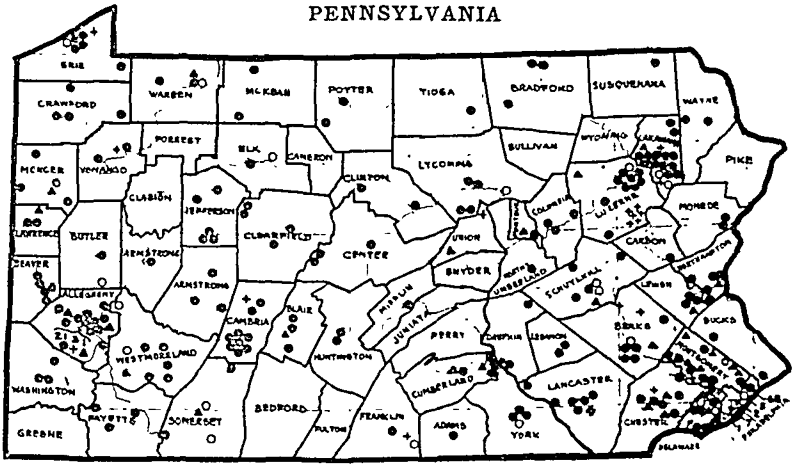
Total hospitals in Oregon, 89; for community use, 67; population per hospital bed, 246; percentage of beds occupied, 70; percentage of counties without hospitals, 19.4.

PENNSYLVANIA

	Total Beds	Av.Beds in Use
Abington, 800—Montgomery		
Abington Memorial Hospital ★	118	79
Adamsburg, 246—Westmoreland		
Adamsburg Health Home	14	3
Allentown, 92,151—Lehigh		
Allentown Hospital Ass'n.★	250	139
Baer Hospital for Women	15	10
Sacred Heart Hospital ★	160	112
Altoona, 66,148—Blair		
Altoona Hospital ★	162	104
Mercy Hospital	101	51
Andalusia, 300—Bucks		
Convalescent Home	25	25
Ardmore, 10,075—Montgomery		
Wood Lea Sanitarium (N.& M.)	14	12
Ashland, 6,664—Schuylkill		
State Hospital	250	182
Austin, 1,556—Potter		
North Penn. Hosp. & Sanit.	25	10
Beaver Falls, 13,147—Beaver		
Providence Hospital	45	40
Bellefonte, 3,996—Center		
Center County Hospital	46	26
Bellevue, 8,198—Allegheny		
Suburban General Hospital	58	45
Berwick, 14,160—Columbia		
Berwick Hospital	50	31
Bethlehem, 62,828—Northampton		
St. Luke's Hospital ★	186	145
Bloomsburg, 7,819—Columbia		
Bloomsburg Hospital	50	34
Blossburg, 2,033—Tioga		
Blossburg State Hospital	80	68
Braddock, 21,739—Allegheny		
Braddock General Hospital	115	66
Bradford, 15,796—McKean		
Bradford Hospital	100	55
Brookville, 3,272—Jefferson		
Brookville Hospital	31	26
Brownsville, 2,502—Fayette		
Brownsville General Hospital	85	56
Bryn Mawr, 3,000—Montgomery		
Bryn Mawr Hospital ★	116	89

	Total Beds	Av.Beds in Use
Butler, 25,230—Butler		
Butler County Mem. Hosp.....	109	43
Cambridge Springs, 1,663—Crawford		
Logan's Hospital..............	15	8
Canonsburg, 13,488—Washington		
Canonsburg General Hospital...	34	32
Carbondale, 19,545—Lackawanna		
Carbondale City Hospital......	20	16
Carbondale Emergency Hospital	65	50
Carlisle, 11,438—Cumberland		
The Carlisle Hospital..........	50	25
Chambersburg, 13,947—Franklin		
Chambersburg Hospital........	90	32
Chester, 68,507—Delaware		
Chester Hospital ★............	250	90
J. Lewis *Crozer Hospital*.......	84	40
Clarks Summit, 1,404—Lackawanna		
Hillside Hospital (N.& M.).....	700	500
Clearfield, 8,529—Clearfield		
Clearfield Hospital.............	96	68
Clifton Heights, 3,469—Delaware		
Burn Brae Hospital (N.& M.)..	50	46
Coaldale, 6,336—Schuylkill		
Coaldale State Hospital........	50	49
Coatesville, 16,457—Chester		
Coatesville Hospital...........	50	32
Columbia, 10,836—Lancaster		
Columbia Hospital..............	50	25
Colver, 2,060—Cambria		
Colver Hospital................	18	6
Concordville, 400—Delaware		
Darlington Sanitarium.........	10	8
Confluence, 1,031—Somerset		
Frantz Hospital................	15	11
Connellsville, 14,347—Fayette		
State Hospital.................	36	20
Conshohocken, 8,481—Montgomery		
Innwood Sanitarium (N.& M.)..	25	20
Corry, 7,228—Erie		
Corry Hospital.................	40	25
Coudersport, 2,836—Potter		
Coudersport General Hospital...	15	4
Danville, 6,952—Montour		
Geo. F. Geisinger Mem. Hosp.★	140	112
Dixmont, 1,200—Allegheny		
Dixmont Hospital (N.& M.)....	977	675
Dixonville, 550—Indiana		
Two Licks Hospital............	27	14
DuBois, 14,279—Clearfield		
Du Bois Hospital............	50	24
Maple Avenue Hospital........	69	32
Eagleville, —— —Montgomery		
Eagleville Sanatorium (T.B.)..	130	126
Easton, 36,810—Northampton		
Betts' Private Hospital........	45	30
Easton Hospital ★............	109	88
Easton Sanitarium (N.& M.)...	30	20
East Stroudsburg, 5,278—Monroe		
General Hospital..............	41	14
Ellwood City, 8,958—Lawrence		
Ellwood City Hospital.........	25	11
Embreeville, 147—Chester		
Chester Co. Hospital (N.& M.).	346	345
Erie, 93,372—Erie		
Fisher E, E, N. & T. Hospital	15	5
Hamot Hospital Association ★...	187	124
Louise Home (T.B.)...........	16	14
Municipal Hospital............	18	1
St. Vincent's Hospital ★.......	214	140
Franklin, 9,970—Venango		
Franklin Hospital	47	15
Gettysburg, 4,439—Adams		
Annie M. Warner Hospital of Adams Co.	50	23
Gladwyne, 1,200—Montgomery		
Gladwyne Colony (N.& M.)....	55	40
Glenside, 1,800—Montgomery		
Bramlett-Kerr Sanatorium.....	10	2
Greensburg, 16,056—Westmoreland		
[illegible]	104	75
[illegible]		
[illegible]	60	34
[illegible]		
[illegible]	25	9
[illegible]		
Harrisburg Hospital ★.........	200	122
Harrisburg Polyclinic Hospital.	62	49
Keystone Private Hospital....	21	18
Hazleton, 36,143—Luzerne		
Hazleton State Hospital.......	125	98
Heilwood, 2,045—Indiana		
Bethlehem Mines Hospital......	18	5
[illegible] 4,071—Blair		
[illegible]	325	296
[illegible]		
[illegible]	150	52
[illegible]		
[illegible]	25	11
[illegible]		
[illegible]	68	47
Indiana, 7,043—Indiana		
Indiana Hospital..............	81	69
Jersey Shore, 6,103—Lycoming		
Jersey Shore Hospital..........	25	10
Dr. F. G. Sanford's Priv. Hosp.	12	8
Johnstown, 71,475—Cambria		
Barbara Sales Memorial Hosp.	15	5
Cambria Steel Co. Hospital....	60	28
Conemaugh Valley Mem. Hosp.★	160	123
Lee Homeopathic Hospital.....	28	16
Mendenhall Maternity Hospital	16	12
Mercy *Hospital of Johnstown*..	86	68
Municipal Hospital............	50	25
Kane, 7,283—McKean		
Kane Summit Hospital........	87	30
Kingston, 17,998—Luzerne		
Nesbitt West Side Hospital....	69	42
Kittanning, 7,153—Armstrong		
Kittanning General Hospital...	35	23
Lancaster, 56,505—Lancaster		
Lancaster Co. Hosp. and Hosp. *for Insane*	350	326
Lancaster General Hospital ★..	163	107
Rossmere Sanatorium (T.B.)...	50	30
St. Joseph's Hospital.........	200	102
Latrobe, 9,484—Westmoreland		
Latrobe Hospital.............	59	32
Lebanon, 25,207—Lebanon		
Good Samaritan Hospital.......	71	26
Lebanon Sanatorium..........	25	22
Lewistown, 9,849—Mifflin		
Lewistown Hospital...........	44	25
Lock Haven, 8,557—Clinton		
Lock Haven Hospital..........	78	55
Lock No. 4, 532—Washington		
Charleroi-Monessen Hospital...	30	20
Mayview, —— —Allegheny		
Pittsburgh City Hospitals......	2,647	2,585
McKeesport, 49,097—Allegheny		
McKeesport Hospital ★........	160	145
McKees Rocks, 18,077—Allegheny		
Ohio Valley General Hospital..	60	45
Meadville, 15,580—Crawford		
Meadville City Hospital.......	46	40
Spencer Hospital.............	75	42
Media, 4,109—Delaware		
Dermady Cottage Sanat. (T.B.)	25	25
Media Hospital................	20	15
Melcroft, 18—Fayette		
Indian Creek Valley Hospital..	20	12
Mercer, 1,932—Mercer		
Mercer Cottage Hospital.......	45	30
Mercer Sanitarium (N.& M.)...	45	38
Meyersdale, 3,716—Somerset		
Meyersdale Hospital...........	12	4
Monaca, 3,838—Beaver		
Beaver Co. Sanatorium (T.B.).	49	47
Monongahela, 8,688—Washington		
Monongahela Memorial Hospital	72	36
Mont Clare, —— —Montgomery		
River Crest Preventorium......	24	24
Mt. Pleasant, 5,862—Westmoreland		
Mt. Pleasant Mem. Hospital...	50	27
Muncy, 2,054—Lycoming		
Muncy Valley Private Hospital.	20	14
Nanticoke, 24,732—Luzerne		
State Hospital................	90	75
New Brighton, 9,361—Beaver		
Beaver Valley General Hosp.	67	40
New Castle, 49,842—Lawrence		
New Castle Hospital..........	100	50
Shenango Valley Hospital.....	85	37
New Kensington, 14,412—Westmoreland		
Citizens General Hospital.....	89	65
Newton Square, 168—Delaware		
The Dunwoody Home..........	40	35
New Wilmington, 886—Lawrence		
Overlook Sanitarium..........	25	20
Norristown, 34,836—Montgomery		
Montgomery Hospital.........	103	67
River View Private Hospital...	18	8
Northampton, 9,349—Northampton		
Dr. Haff's Private Hospital....	50	25
Oakbourne, 32—Chester		
Penna. Epileptic Hospital......	110	97
Oil City, 23,260—Venango		
Grandview Sanatorium (T.B.)..	50	25
Oil City Hospital..............	56	32
Old Forge, 12,755—Lackawanna		
Taylor Hospital................	44	35
Olyphant, 11,215—Lackawanna		
Blakely Home (N.& M.).......	128	118
Palmerton, 7,168—Carbon		
Palmerton Hospital............	65	52
Peckville, 3,915—Lackawanna		
Mid-Valley Hospital...........	50	29
Philadelphia, 1,979,364—Philadelphia		
American Hospital...........	40	35
American Oncologic Hospital..	48	25
Anderson Hospital...........	67	55
Babies Hospital of Philadelphia	76	64
Belle Vista Sanat. (N.& M.)..	75	75
Belmont Hospital.............	90	60
Chestnut Hill Hospital........	96	74
Children's Homeopathic Hosp...	165	110
Children's Hosp. of Phila.....	94	71
Clark-Bass Hospital...........	30	30
Diagnostic Hosp. of Phila......	15	5
Drexel Home & Children's Hosp.	44	30
Engelhardt Hospital (N.& M.)..	20	20
Frankford Hospital ★..........	113	80
Frederick Douglas Mem. Hosp. (Col.) ★	78	50
Friends Hospital (N.& M.).....	190	175
Garretson Hospital (N.& M.)...	60	30
Germantown Disp. & Hospital ★	175	100
Hahnemann Medical College & Hospital ★	359	309
Henry Phipps Institute (T.B.)..	50	35
Home for Consumptives.......	104	97
Hospital of the Prot. Epis Church ★	450	347
Hosp. of the University of Penna.★	528	348
Hosp. of the Woman's Med.Col.★	112	72
Howard Hospital..............	82	58
Jefferson Med. College Hosp.★..	578	434
Jewish Hospital Ass'n.★........	210	175
Jewish Maternity Hospital....	44	32
Jos. Price Memorial Hospital...	60	30
Kensington Hosp. for Women..	88	53
Kenwood Sanitarium (N.& M.).	35	32
Lankenau Hospital ★...........	248	186
Maternity Hospital............	38	11
Medico-Surgical & Polyclinic Hospital ★	322	99
Memorial Hospital ★...........	114	75
Mercy Hospital (Colored) ★....	90	60
Methodist Episcopal Hosp.★....	248	201
Misericordia Hospital ★........	238	178
Mitchell Memorial Hospital.....	30	8
Mt. Sinai Hospital ★...........	175	138
National Stomach Hospital.....	47	28
Northeastern Hosp. of Phila...	65	45
Northwestern General Hospital.	56	41
Pennsylvania Hospital (N.& M.)	350	300
Pennsylvania Hospital ★ †......	315	242
Philadelphia General Hospital ★	2,000	1,616
Phila. Hosp. for Contag. Dis..	1,200	450
Phila. Hosp. for Mental Diseases	3,600	3,500
Phila. Lying-in Charity Hosp...	65	45
Phila. Orthopedic Hospital.....	136	83
Presbyterian Hospital ★........	269	166
Preston Retreat	50	35
Roseneath Farms..............	11	12
Rush Hospital for Consumption	133	82

PENNSYLVANIA

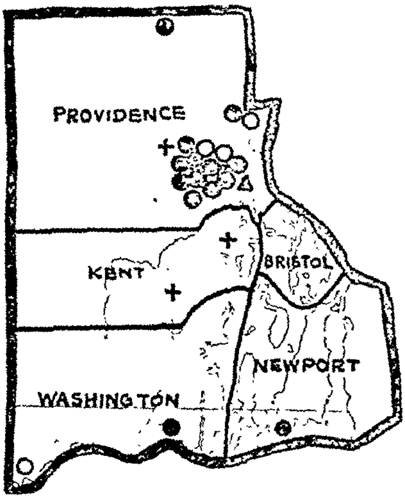


● Hospital for community use. ▲ Nervous and Mental Hospital.
✚ Tuberculosis Hospital. ○ ✚ △ Established since 1920.

Total hospitals in Pennsylvania, 416; for community use, 314; population per hospital bed, 214; percentage of beds occupied, 75; percentage of counties without hospitals, 20.9.

	Total Beds	Av. Beds in Use
Samaritan Hospital ★	225	145
St. Agnes' Hospital ★	306	196
St. Christopher's Hospital for Children	65	40
St. Joseph's Hospital ★	175	95
St. Luke's Homeo. Hosp.	55	46
St. Mary's Hospital ★	200	128
St. Vincent's Hosp. for Women and Children	320	300
Stetson Hosp. of Phila.	65	40
West Phila. Gen'l Homeo. Hosp. and Dispensary	65	35
West Phila. Hosp. for Women	73	61
Widener Memorial Training School	50	25
Wills Hospital †	120	60
Women's Homeopathic Hosp. of Phila.★	175	100
Woman's Hospital of Phila.★	148	79
Woman's Southern Homeopathic Hospital	40	18
Philipsburg, 3,900—Center		
Dr. McGirk Sanitarium	20	15
Philipsburg State Hospital	77	58
Phoenixville, 10,484—Chester		
Phoenixville Hospital	85	40
Pittsburgh, 631,563—Allegheny		
Allegheny General Hospital ★	400	294
Belvedere General Hospital	35	20
Children's Hosp. of Pittsburgh	110	90
Elizabeth Steel Magee Hosp.†	160	118
Eye and Ear Hospital	55	34
Fairview Sanatorium (N.& M.)	14	12
Haddon Maternity Hospital	25	14
Homeopathic Hospital ★	143	145
Leech Farm Sanatorium (T.B.)	200	170
Mercy Hospital ★	556	510
Montefiore Hospital ★	58 (a)	50
Municipal Hosp. for Contag. Dis.	250	150
Passavant Hospital ★	134	110
Pittsburgh Hospital ★	106	79
Presbyterian Hospital ★	185	133
Rosalia Foundling & Maternity Hospital	82	46
South Side Hospital ★	225	149
St. Francis Hospital ★	600	571
St. John's General Hospital ★	202	131
St. Joseph's Hospital & Disp.★	120	101
St. Margaret's Memorial Hosp. ★	132	82
Tuberculosis League Hospital	115	120
Wechsler Maternity Hospital	20	15
Western Penna. Hospital ★	500	384
Pittston, 19,759—Luzerne		
Pittston Hospital Association	55	51
Pottstown, 18,467—Montgomery		
Homeopathic Hospital	50	20
Pottstown Hospital	80	45
Pottsville, 22,804—Schuylkill		
Lemos B. Warne Hospital	52	32
A. C. Milliken Hospital	30	25
Pottsville Hospital ★	140	77
Punxsutawney, 11,021—Jefferson		
Adrian Hospital	65	42
Murray Sanitarium	15	10
Punxsutawney Hospital	55	30
Reading, 112,707—Berks		
Berks Co. Tuberculosis Sanat.	45	30
Homeopathic Med. & Surg. Hospital	82	45
Reading Hospital ★	138	89
St. Joseph's Hospital	130	100
Renovo, 5,877—Clinton		
Renovo Hospital	25	14
Retreat, 31—Luzerne		
Retreat Home & Hospital for Chronic Diseases	135	50
Retreat Mental Hospital	700	689
Ridgway, 6,037—Elk		
Elk Co. General Hospital	45	32
Ridley Park, 1,761—Delaware		
Taylor Hospital	75	28
Roaring Springs, 2,379—Blair		
Nason Hospital	58	25
Rochester, 6,957—Beaver		
Rochester General Hospital	88	70
Sayre, 8,078—Bradford		
People's Co-operative Hospital	35	3
Robert Packer Hospital ★	217	145
Schuylkill Haven, 5,437—Schuylkill		
G. H. Moore's Hospital	14	10
Schuylkill Co. Hosp. (N.& M.)	500	484
Scranton, 142,266—Lackawanna		
Coppinger's Private Hosp.	16	12
Dr. Evans Hospital	12	6
The Hahnemann Hospital ★	111	77
Lackawanna Co. Hospital (T.B.)	150	52
Mercy Hospital	100	85
Moses Taylor Hospital	100	90
Municipal Hosp. for Contag Dis.	50	1
Scranton Private Hospital	45	25
Scranton State Hospital ★	178	139
St. Joseph's Children & Mat. Hospital	200	92
St. Mary's Keller Memorial Hospital	45	30
West Side Hospital	65	55
The Woman's Hospital	16	6
Sellersville, 1,739—Bucks		
Grand View Hospital	35	24
Sewickley, 4,955—Allegheny		
Sewickley Valley Hosp. Ass'n.	45	30
Shamokin, 21,749—Northumberland		
State Hospital	85	70
Sharon, 24,963—Mercer		
Christian H. Buhl Hospital	125	60
Somerset, 3,121—Somerset		
Somerset Community Hospital	25	15
Somerset Co. Hospital (N.& M.)	490	412
Spangler, 3,035—Cambria		
Miner's Hospital of Northern Cambria	65	49
St. Marys, 6,967—Elk		
Andrew Kaul Memorial Hospital	44	20
Stroudsburg, 5,278—Monroe		
Monroe Co. Hospital	27	15
Sunbury, 16,827—Northumberland		
Mary M. Packer Hospital	60	27
Susquehanna, 3,764—Susquehanna		
Simon H. Barnes Mem. Hospital	20	12
Tarentum, 8,925—Allegheny		
Allegheny Valley Hospital	92	45
Titusville, 8,432—Crawford		
Titusville City Hospital	30	19
Troy, 1,419—Bradford		
Leona Terrace (N.& M.)	18	10
Uniontown, 15,692—Fayette		
Uniontown Hospital ★	164	130
Upland, 2,221—Delaware		
Bram Goiter Institute	25	New
Valencia, 303—Butler		
Lillian Convalescent Rest	50	40
Warren, 13,116—Warren		
Warren General Hospital	80	54
Washington, 23,009—Washington		
Hillsview Sanitarium	56	50
Washington Hospital	106	55

RHODE ISLAND



- ● Hospital for community use.
- ✚ Tuberculosis Hospital.
- ▲ Nervous and Mental Hospital.
- ○ ✚ △ Established since 1920.

Total hospitals in Rhode Island, 38; for community use, 21; population per hospital bed, 250; percentage of beds occupied, 71; percentage of counties without hospitals, 20.0.

	Total Beds	Av. Beds in Use
Wayne, 2,750—Delaware		
Ivycroft Farm	16	10
Waynesboro, 9,720—Franklin		
Waynesboro Hospital	35	12
Wernersville, 797—Berks		
Grand-View Sanitarium	125	75
West Chester, 11,717—Chester		
Chester County Hospital ★	110	76
Homeopathic Hosp. of Chester County	62	32
White Haven, 1,438—Luzerne		
Clair Mont Sanatorium (T.B.)	12	6
Fern Cliff Sanatorium (T.B.)	20	15
Sunnyrest Sanitarium (T.B.)	55	52
White Haven Sanatorium (T.B.)	225	194
Wilkes-Barre, 77,644—Luzerne		
Mercy Hospital ★	165	129
Riverside Hospital	35	20
Wilkes-Barre General Hosp.★	220	173
Wyoming Valley Homeo. Hosp.	75	36
Wilkinsburg, 27,392—Allegheny		
Columbia Hospital ★	170	123
Williamsport, 42,656—Lycoming		
Williamsport Hospital	165	125
Williamsport Private Hospital	50	35
Williamstown, 2,878—Dauphin		
Williams Valley Hospital	20	5
Windber, 9,462—Somerset		
Windber Hospital	93	70
Woodville, 500—Allegheny		
Allegheny Co. Hosp. for Insane	1,300	1,300
Wyncote, 260—Montgomery		
Crest View Sanitarium (N.& M.)	12	8
York, 49,074—York		
West Side Sanitarium	32	19
York Hospital ★	106	76
Five General Hospitals of less than 10 beds	36	17
Total for community use, 314	43,456	32,649

In Pennsylvania the following fourteen counties have no hospitals for community use: Bedford, Cameron, Clarion, Forest, Franklin, Fulton, Greene, Juniata, Perry, Pike, Snyder, Sullivan, Union, Wyoming.

RHODE ISLAND

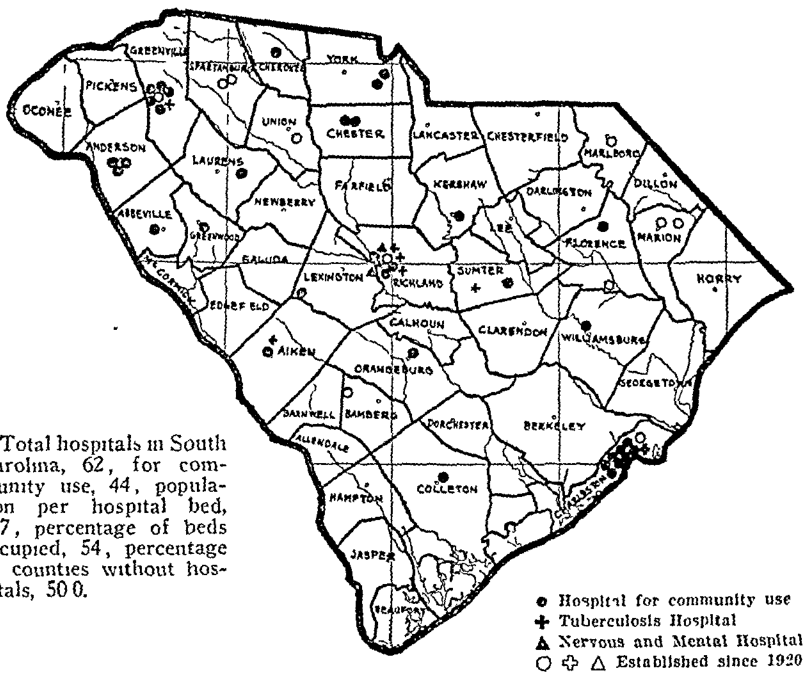
	Total Beds	Av. Beds in Use
East Greenwich, 3,420—Kent		
Crawford Allen Memorial Hosp.	50	50
Hillsgrove, —— —Kent		
St. Joseph's Sanit. Annex (T.B.)	86	70
Howard, 400—Providence		
State Infirmary ★ †	600	590
Newport, 27,757—Newport		
Newport Hospital	175	82
Pawtucket, 69,760—Providence		
Hospital Notre Dame	28	20
Memorial Hospital ★	100	80
Providence, 267,918—Providence		
Butler Hospital (N.& M.)	170	160
Homeopathic Hospital of R. I.	82	60
Hope Private Hospital	35	18
Jane Brown Memorial Hospital	86	45
John W. Keefe Surgery	20	10
Miriam Hospital	65	42
Park Hill Private Hospital	20	10
Providence City Hospital †	190	122
Providence Lying-in Hospital	60	41
Providence Surgical Hospital	32	15
Rhode Island Hospital ★	600	340
St. Joseph's Hospital ★	180	150
Wakefield, 2,170—Washington		
South County Hospital	23	5
Westerly, 9,952—Washington		
The Westerly Hospital	54	New
Woonsocket, 49,681—Providence		
Woonsocket Hospital	60	45
Total for community use, 21	2,716	1,955

In Rhode Island the following county has no hospital for community use: Bristol.

SOUTH CAROLINA

	Total Beds	Av. Beds in Use
Abbeville, 4,570—Abbeville		
Abbeville Co. Memorial Hospital	35	16
Aiken, 4,103—Aiken		
Aiken Cottages (T.B.)	18	8
Aiken Hospital	30	20
Anderson, 11,087—Anderson		
Anderson County Hospital	80	32
St. Mary's Hospital	32	12
University Sanitarium	50	21
Bennettsville, 3,197—Marlboro		
Bennettsville Hospital	24	12
Camden, 3,930—Kershaw		
Camden Hospital	55	26
Charleston, 73,125—Charleston		
Baker Sanatorium	50	30
McClennan Hospital	20	10
Mercy Hospital	17	10
Roper Hospital ★	270	178
St. Francis Xavier Infirmary	50	30
Chester, 5,557—Chester		
Chester Sanatorium	35	22
Pryor Hospital	60	32
Clinton, 3,767—Laurens		
Dr. Hays' Hospital	20	6
Columbia, 41,225—Richland		
Columbia Hospital of Richland County ★	125	76
Good Samaritan Hospital	40	25
South Carolina Baptist Hosp.★	125	74
Waverley Hospital	30	15
Waverley Sanitarium (N.& M.)	30	19
Florence, 13,182—Florence		
Florence Infirmary	125	83
Gaffney, 5,065—Cherokee		
City Hospital	25	10
Greenville, 27,311—Greenville		
Emma Moss Booth Mem. Hosp.	66	30
Greenville City Hospital ★	119	75
Hopewell Sanatorium (T.B.)	24	22
Dr. Jervey's Private Hospital	12	6
Montgomery Hospital	30	15
St. Luke's Hospital	25	10
Dr. Tyler's Hospital	12	6
Greenwood, 8,703—Greenwood		
Greenwood City Hospital	50	12
Kingstree, 2,074—Williamsburg		
Kelley Sanatorium	28	12
Lake City, 1,606—Florence		
The Lynch Infirmary	20	3
Leesville, 980—Lexington		
The Leesville Infirmary	35	15
Mullins, 2,379—Marion		
The Mullins Hospital	35	21
Navy Yard, —— —Charleston		
Pinehaven Sanatorium (T.B.)	50	20
Orangeburg, 7,290—Orangeburg		
The Orangeburg Hospital	38	30

SOUTH CAROLINA



Total hospitals in South Carolina, 62, for community use, 44, population per hospital bed, 797, percentage of beds occupied, 54, percentage of counties without hospitals, 50 0.

	Total Beds	Av Beds in Use
Rock Hill, 8,809—York		
Fennell Infirmary	60	20
Spartanburg, 25,537—Spartanburg		
Mary Black Clinic & Priv Hosp	50	32
Spartanburg General Hospital	98	50
Sumter, 9,508—Sumter		
Camp Alice, Sumter Co T B Sanit	18	15
Tuomey Hospital .	40	30
Union, 6,141—Union		
Wallace Thompson Hospital .	20	15
Waterboro, 1,853—Colleton		
Charles Es' Dorn Hospital	50	15
Total for community use, 44	2,232	1,224

In South Carolina the following twenty-three counties have no hospitals for community use: Allendale, Barnwell, Beaufort, Berkeley, Calhoun, Chesterfield, Clarendon, Darlington, Dillon, Dorchester, Edgefield, Fairfield, Georgetown, Hampton, Horry, Jasper, Lancaster, Lee, McCormick, Newberry, Oconee, Pickens, Saluda.

SOUTH DAKOTA

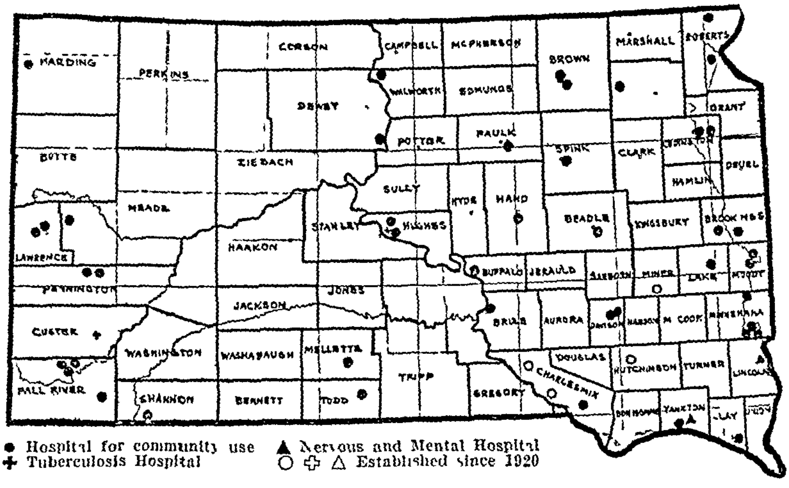
	Total Beds	Av Beds in Use
Aberdeen, 15,036—Brown		
Lincoln Hospital	75	36
St Luke's Hospital	100	60
Brookings, 3,924—Brookings		
Dakota Deaconess Hospital	14	8
Camp Crook, 163—Harding		
Camp Crook Hospital . .	10	3
Chamberlain, 1,303—Brule		
Chamberlain Sanit & Hosp .	75	35
Deadwood, 2,403—Lawrence		
St Joseph's Hospital .	75	25
Dell Rapids, 1,677—Minnehaha		
Dell Rapids Hospital ..	35	22
Faulkton, 709—Faulk		
Faulk County Hospital ...	16	7
Flandreau, 1,929—Moody		
Flandreau Hospital ..	10	7
Garretson, 715—Minnehaha		
De Vall Hospital.... .	10	4
Hot Springs, 2,141—Fall River		
Lutheran Sanit and Hosp	50	13
Our Lady of Lourdes Hosp & Sanit	75	29
Huron, 8,302—Beadle		
Sprague Hospital	50	35
Lead, 5,013—Lawrence		
Homestake Hospital . ..	25	12
Madison, 4,144—Lake		
New Madison Hospital .	50	24
Miller, 1,478—Hand		
McWhorter and Wheelock Hosp	18	9
Mitchell, 8,478—Davison		
Methodist State Hospital .	95	60
St Joseph's Hospital	85	45
Mobridge, 3,517—Walworth		
Mobridge Hospital	30	10
Parkston, 1,230—Hutchinson		
Dr J L Waldner's Hospital ...	12	5
Pierre, 3,209—Hughes		
St Mary's Hospital	55	40
Rapid City, 5,777—Pennington		
Methodist Deaconess Hospital ..	50	34
Redfield, 2,755—Spink		
Baldwin Community Hospital	15	7
Sioux Falls, 30,127—Minnehaha		
McKennan Hospital .	100	61
Moe Hospital and Clinic	70	30
Sioux Falls Lutheran Hospital	35	28
Sisseton, 1,431—Roberts		
Powell Hospital .	18	10
Vermilion, 2,590—Clay		
Vermillion Hospital.	20	10
Volga, 600—Brookings		
Volga Hospital .	18	13
Watertown, 9,400—Codington		
Bartron Hospital	60	24
Luther Hospital	57	44
Webster, 1,800—Day		
Peabody Hospital .	88	35
Yankton, 5,024—Yankton		
Sacred Heart Hospital . .	100	74
Four General Hospitals of less than 10 beds	26	11
Total for community use 37 .	1,622	870

In South Dakota the following thirty-six counties have no hospitals for community use Aurora, Bennett, Bon Homme, Butte, Campbell, Clark, Corson, Deuel, Dewey, Douglas, Edmunds, Grant, Gregory, Haakon, Hamlin, Hanson, Hyde, Jackson, Jerauld, Jones, Kingsbury, Lincoln, McCook, McPherson, Marshall, Perkins, Potter, Sanborn, Stanley, Sully, Tripp, Turner, Union, Washabaugh, Washington, Ziebach

TENNESSEE

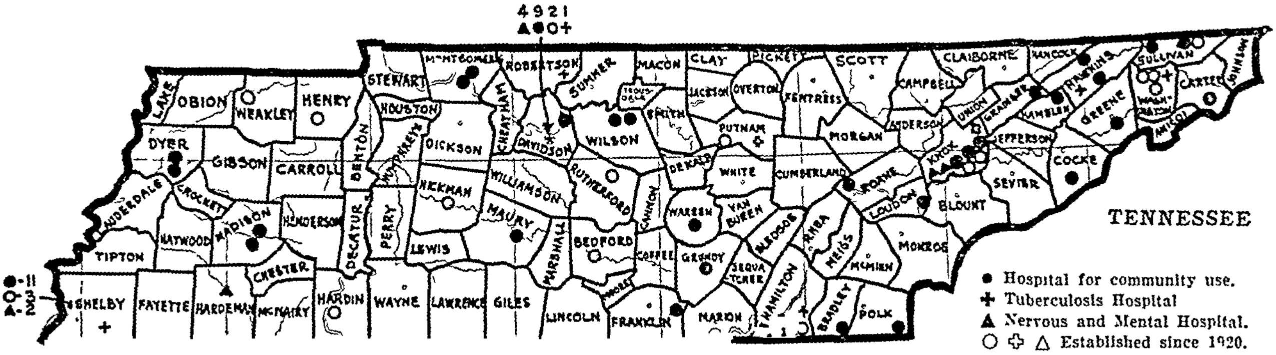
	Total Beds	Av Beds in Use
Bristol, 8,047—Sullivan		
Mercy Hospital	18	13
Centerville, 882—Hickman		
Edwards' Infirmary	12	8
Chattanooga, 66,575—Hamilton		
Baroness Erlanger Hospital ★ .	186	116
Chattanooga Hospital . ..	60	20
Mountain City Sanitarium	15	7
Newell & Newell Sanitarium .	65	35
Pine Breeze Sanitarium (T.B)	140	108
Clarksville, 8,110—Montgomery		
Clarksville Home Infirm (Col)	28	10
Clarksville Hospital.	28	9
Cleveland, 6,522—Bradley		
Speck Hospital, Inc	26	12
Columbia, 5,526—Maury		
Kings Daughters' Hospital......	30	15
Cookeville, 2,395—Putnam		
Howard Hospital	15	2
Copperhill, 1,500—Polk		
Tennessee Copper Co's Hosp	12	6
Dyersburg, 6,444—Dyer		
Baird-Dulaney Hospital	50	15
Dyersburg General Hospital ...	50	24
Elizabethton, 2,749—Carter		
Elizabethton General Hospital .	20	8
Fountain City, (Knoxville P O), 500—Knox		
Dr H E Goetz Sanitarium (N & M)	30	25
Greeneville, 3,775—Greene		
Greeneville Sanat and Hosp. .	23	12
Jackson, 19,925—Madison		
Crook Sanatorium	65	25
Memorial Hospital	50	25
Johnson City, 14,362—Washington		
Appalachian Hospital ..	50	25
Johnson City General Hospital .	22	12
Jones E, E, N. & T Hospital..	18	10
Kingsport, 5,692—Sullivan		
Riverview Hospital	25	15
Knoxville, 95,464—Knox		
Beverly Hills Sanatorium (T B)	62	35
Ft Sanders Hospital ..	65	46
Knoxville General Hospital ★..	200	125
Riverside Hospital	50	33
Lebanon, 4,084—Wilson		
Lillard's Infirmary	18	6
McFarland Hospital......	10	5
Loudon, 1,881—Loudon		
J J Harrison, Jr Sanitarium .	25	10
Madison, 50—Davidson		
Madison Rural Sanitarium ..	45	45
Martin, 2,837—Weakley		
Weakley County Hospital Ass'n	18	6
McMinnville, 2,814—Warren		
McMinnville Infirmary . .	10	5
Memphis, 174,533—Shelby		
Baptist Memorial Hospital ★ .	325	248
Crippled Children's Hospital-School .	37	34
Gartly-Ramsey Hospital ..	32	30
Hospital for Crippled Adults	30	30
Jane Terrell Baptist Hospital (Col)	110	78

SOUTH DAKOTA



Total hospitals in South Dakota, 58, for community use, 37, population per hospital bed, 420, percentage of beds occupied, 53, percentage of counties without hospitals, 52 1

	Total Beds	Av Beds in Use
Lynnhurst Sanitarium (N & M)	20	16
Memphis General Hospital ★...	350	267
Methodist Hospital	110	80
Royal Circle Hospital (Col)....	41	15
Shelby County Hospital.......	450	385
St Joseph's Hospital ★	250	205
Wallace Sanitarium (N & M) .	50	30
Willis C Campbell Clinic ..	44	35
Wilson Hospital............ .	50	30
Woman's Hospital.......... ..	55	24
Monterey, 1,445—Putnam		
Officer Sanatorium (T B). . ..	15	5
Morristown, 5,875—Hamblen		
Morristown General Hospital ..	30	12
Nashville, 136,220—Davidson		
Baptist Hospital	80	49
The Barr Infirmary .. .	25	15
City View Sanitarium (N & M)	65	40
Davidson Co Hosp (N & M)..	300	275
Davidson County Isolation Hosp	40	25
Davidson Co Tuberculosis Hosp	40	25
Dr. Douglas' Sanit (N & M)	12	7
East Side Hosp & Sanit . .	25	New
Geo. W Hubbard Hosp (Col) ★	140	55
Millie E Hale Hospital (Col)	60	40
Nashville City Hospital ★ . .	150	93
Protestant Hospital ★	82 (a)	60
St. Thomas Hospital ★	200	135
Vanderbilt University Hosp ★ ..	180	100
Newport, 2,753—Cocke		
E E. Northcutt Hospital	12	4
Oakville, 150—Shelby		
Oakville Memorial Sanat (T B)	200	190
Paris, 4,730—Henry		
Hoyland General Hospital	15	4
Wiggins Clinic	15	8
Ridgetop, 126—Robertson		
Watauga Sanitarium (T.B)....	50	40
Rockwood, 4,652—Roane		
Chamberlain Memorial Hospital	40	20
Savannah, 758—Hardin		
Belle Morris Hospital.........	11	1
Sewanee, 530—Franklin		
Emerald-Hodgson Mem Hosp .	50	15
Shelbyville, 2,912—Bedford		
Bedford County Hospital	25	12
One General Hospital of less than 10 beds	8	3
Total for community use, 75.	5,499	3,755



Total hospitals in Tennessee, 101; for community use, 75; population per hospital bed, 440; percentage of beds occupied, 68; percentage of counties without hospitals, 65 2

In Tennessee the following sixty-two counties have *no hospitals for community use*. Benton, Bledsoe, Blount, Campbell, Cannon, Carroll, Cheatham, Chester, Claiborne, Clay, Coffee, Crockett, Cumberland, De Kalb, Decatur, Dickson, Fayette, Fentress, Gibson, Giles, Hancock, Hardeman, Haywood Humphreys, Jackson, Lauderdale, Lawrence, McNairy, Macon, M Monroe, Moore, Morga Pickett, Rhea, Robertson, Scott, Sequatchie, Sevier, Smith, Stewart, Sumner, Tipton, Trousdale, Union, Van Buren, Wayne, White, Williamson.

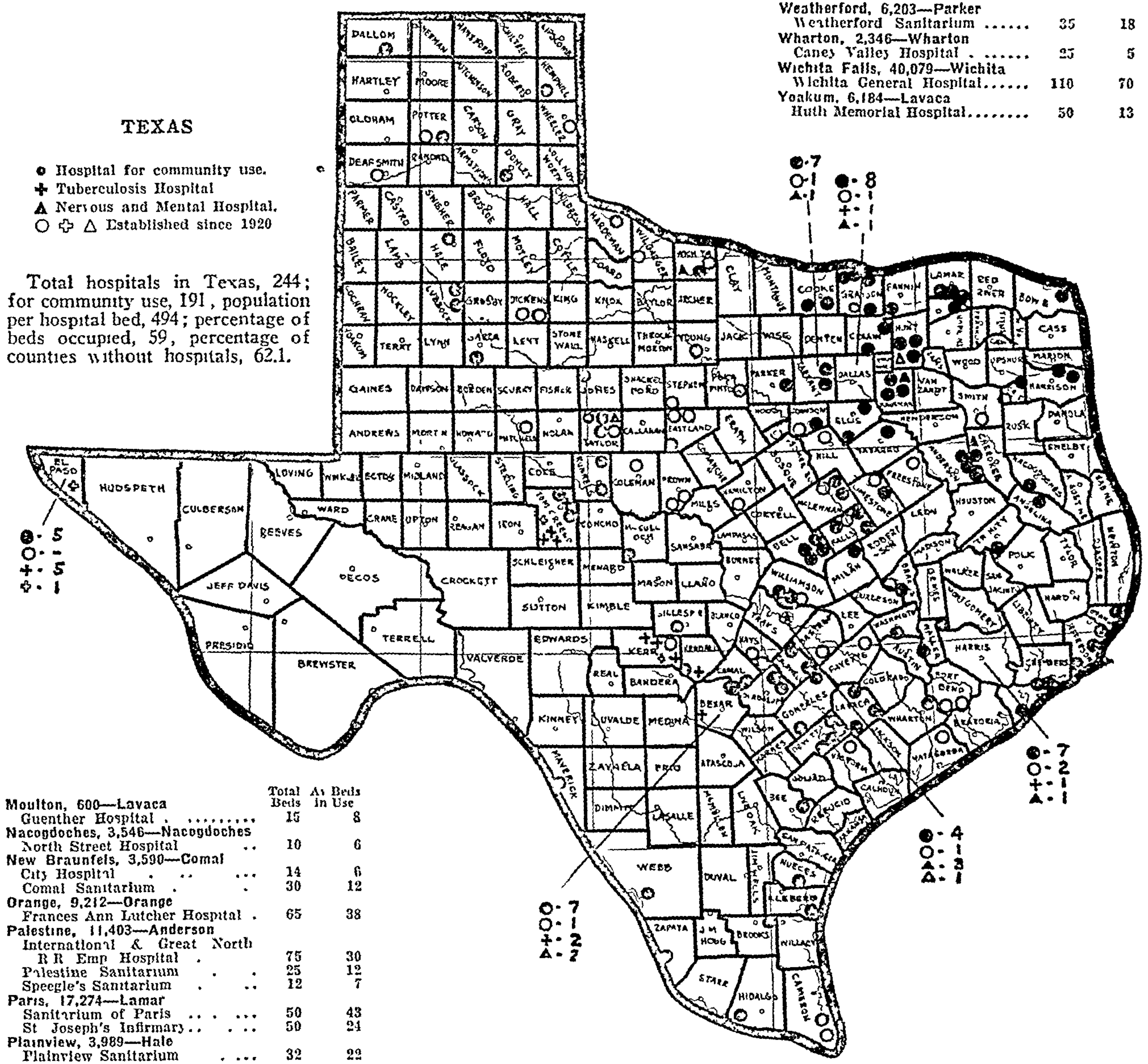
TEXAS

	Total Beds	Av Beds in Use
Abilene, 10,456—Taylor		
	30	15
	75	35
	75	23
	50	45
Austin, 37,717—Travis		
Austin City Hospital	60	60
Oaks Sanitarium (N & M).....	25	20
Scott and Gregg Hospital.....	15	10
Seton Infirmary	150	65
St David's Hospital..........	46	18
Ballinger, 2,767—Runnels		
Haley and Love Sanitarium....	25	15
Bastrop, 1,828—Bastrop		
F. A. Orgain Memorial Hospital	20	6
Bay City, 3,454—Matagorda		
Dr. Loos' Hospital...	14	5
Beaumont, 50,615—Jefferson		
Hotel Dieu Hospital ★	150	100
Beeville, 3,063—Bee		
Beeville Hospital.......... ...	35	12
Belton, 5,098—Bell		
Belton General Hospital. ..	15	10
Boerne, 1,153—Kendall		
St Mary's Sanitarium (T B) .	40	28
Bonham, 6,008—Fannin		
S B Allen Memorial Hospital .	35	15
Brady, 2,197—McCulloch		
Brady Sanitarium	30	12
Breckenridge, 1,846—Stephens		
Breckenridge Sanitarium . ..	20	8
Brenham, 5,066—Washington		
Brenham Hospital ...	13	6
Brownsville, 12,512—Cameron		
Mercy Hospital.......	40	9
Brownwood, 8,223—Brown		
Central Texas Hospital. .	30	15
Miss Stumpp's Sanitarium ...	10	5
Cameron, 4,298—Milam		
Cameron Hospital.....	50	21
Canadian, 2,187—Hemphill		
Canadian Hospital............	15	10
Clarendon, 2,456—Donley		
Adair Hospital...........	12	5
Cleburne, 14,162—Johnson		
Cleburne Sanitarium... ...	20	10
Meadow Lawn Sanitarium ..	20	8
Coleman, 2,868—Coleman		
Overall Memorial Hospital ...	26	8
Colorado, 1,766—Mitchell		
Colorado Sanitarium.....	10	4
Cooper, 2,563—Delta		
Janes Sanitarium	12	5
Corpus Christi, 11,825—Nueces		
Spohn Hospital	50	46
Corsicana, 11,356—Navarro		
Navarro County Hospital.... ..	50	31
Cuero, 3,671—De Witt		
Boothe Hospital............. .	35	6
Burns Hospital	35	7
Dalhart, 3,580—Dallam		
Trans-Canadian Sanitarium ..	20	10
Dallas, 194,450—Dallas		
Baylor Hospital ★..	360	251
Bellerose Sanitarium . .	10	5
Cedar Maternity Sanitarium .	20	10
Dallas Baby Camp & Hospital	45	20
Good Samaritan Hospital	18	5
Hella Temple Children's Hosp	50	48
Hope Cottage	75	60
McMillan Sanitarium... ..	23	11
Parkland Hospital ★.. . . .	250	180
Samuell Clinic Hospital	26	18
St Paul's Sanitarium ★ . .	310	170
Timberlawn Sanit (N & M) .	40	34
Woodlawn Sanatorium (T B) .	120	93
Denison, 19,008—Grayson		
Denison Hospital	25	12
Mercy Hospital	25	New
Mo Kans & Tex. R'y Employees Hospital.... ..	65	25
Eagle Pass, 5,765—Maverick		
Gates' Hospital........ . ..	17	4
El Paso, 104,929—El Paso		
El Paso County Hospital	100	70
El Paso Masonic Hospital	40	34
El Paso Smelter Hospital	18	7
Hendricks-Laws Sanat (T B).	86	55
Homan Sanatorium (T.B).	110	70
Hotel Dieu, Sisters Hospital ..	100	75
Long-Liddell Sanatorium (T.B)	50	20
Price Sanatorium (T B)......	24	12
Providence Hospital	50	25
San Jose Nursing Home (T B)	15	8
Southern Baptist Sanat. (T.B)	125	59
Ennis, 7,224—Ellis		
Municipal Hospital	20	10
Falfurrias, 750—Brooks		
The Falfurrias Hospital	20	10
Forney, 1,340—Kaufman		
Forney Sanitarium	25	20
Ft Worth, 154,847—Tarrant		
All Saints Episcopal Hospital .	50	32
Arlington Heights Sanitarium (N & M)	70	45
Baptist Hospital	65	42
Braswell's Sanitarium ..	26	14
City and County Hospital ..	57	35
Ft Worth Children's Hospital .	47	27
Harris' Hospital ★	100	73
Southwestern Hospital	50	35
St Joseph's Infirmary	125	60
Gainesville, 8,648—Cooke		
Gainesville Sanitarium	25	25
Galveston, 48,375—Galveston		
John Sealy Hospital ★	308	268
St Mary's Infirmary ★	200	112
Georgetown, 2,871—Williamson		
The Martin Hospital	25	8
Gonzales, 3,128—Gonzales		
Holmes Hospital	25	6
Gorman, 963—Eastland		
Blackwell Sanitarium	39	20
Graham, 2,544—Young		
Graham City Hospital	30	16
Greenville, 14,386—Hunt		
Dr E P Becton's Hospital....	17	3
Cantrell Hospital .	47	42
Dr A S McBride's Hospital (N & M) .	35	13
Groesbeck, 1,522—Limestone		
Dr Cox's Hospital . . .	12	6
Hallettsville, 1,444—Lavaca		
Renger Hospital	15	6
Hamilton, 2,018—Hamilton		
Hamilton Sanitarium	50	25
Hereford, 1,696—Deaf Smith		
Deaf Smith County Hospital...	20	3
Hillsboro, 6,932—Hill		
The Boyd Sanitarium	20	10
Houston, 164,954—Harris		
Baptist Hospital ★	200	161
Blair's Sanitarium . ..	15	12
Dr Greenwood's Sanit (N & M)	40	25
Hermann Hospital	330	100
Houston E E & T Hospital ..	14	8
Houston Tuberculosis Hospital .	88	70
Jefferson Davis Hospital	150	82
Methodist Hospital	125	41
Southern Pacific Hospital † ...	100	68
St Joseph's Infirmary ★	250	160
Jacksonville, 3,723—Cherokee		
Cherokee Sanitarium	29	14
Kerrville, 2,353—Kerr		
Hill Crest Sanatorium	14	10
Secor Sanitarium-Hospital ...	30	15
Thompson Sanatorium (T B)..	86	75
Kingsville, 4,770—Kleberg		
Kleberg Co Hospital	50	25
LaGrange, 1,660—Fayette		
LaGrange Hospital	25	15
Laredo, 27,159—Webb		
Mercy Hospital	35	20
Lockhart, 3,731—Caldwell		
Lockhart Sanitarium...........	15	8
Longview, 5,713—Gregg		
Markham Sanitarium.........	12	6

	Total Beds	Av Beds in Use
Lubbock, 4,051—Lubbock		
Lubbock Sanitarium	60	33
West Texas Hospital	62	35
Lufkin, 4,878—Angelina		
Angelina Co Hospital	35	22
Luling, 1,502—Caldwell		
Luling Hospital	20	8
Marlin, 4,310—Falls		
Buie Clinic & Marlin Sanit	17	12
Torbett Sanatorium	35	21
Marshall, 15,867—Harrison		
Kahn Memorial Hospital	25	10
Tex & Pacific Ry Employees Hospital	100	48
McKinney, 6,677—Collin		
Burton E E N & T Sanit.	12	5
McKinney City Hospital	40	13
Mercedes, 3,414—Hidalgo		
Mercedes General Hospital	10	5
Mexia, 3,482—Limestone		
Brown Hospital	20	10
Mineral Wells, 7,890—Palo Pinto		
Mineral Wells Sanitarium	14	4

	Total Beds	Av Beds in Use
San Antonio, 198,069—Bexar		
Baylor Hospital	50	45
Eye, Ear, Nose & Throat Hosp	20	10
Dr Farmer's Sanatorium (T B)	30	25
Grace Lutheran Sanat (T.B)	48	29
Dr Kenney's Sanatorium	72	55
Lee Surgical Hospital	35	20
Matthews Home Sanitarium	20	10
Dr. Moody's Sanit (N & M)	75	56
Physicians and Surgeons' Hosp	75	50
Robert B Green Mem Hosp ★	135	100
Santa Rosa Infirmary ★	300	188
Woodmen of the World War Mem Hosp (T B)	200	135
San Marcos, 4,527—Hays		
Soldiers & Sailors' Mem. Hosp.	25	6
Schertz, 200—Guadalupe		
Karbach Hospital	15	10
Seguin, 3,631—Guadalupe		
Seguin Sanitarium	10	3
Shamrock, 1,227—Wheeler		
Shamrock General Hospital	15	4

	Total Beds	Av Beds in Use
Teague, 3,306—Freestone		
City Hospital	20	10
Temple, 11,055—Bell		
Gulf, Colo & Santa Fe Hosp ★	125	74
King's Daughters' Hospital	85	65
Scott & White Hospital ★	135	100
Texarkana, 12,437—Bowie		
Texarkana Sanit & Hospital	50	30
Tyler, 13,037—Smith		
Tyler General Hospital	15	8
Vernon, 5,142—Wilbarger		
Vernon Hospital	25	12
Victoria, 5,957—Victoria		
Victoria Hospital Ass'n	35	12
Von Ormy, —— —Bexar		
Von Ormy Cottage Sanit (T B)	40	30
Waco, 43,912—McLennan		
Central Texas Baptist Sanit	100	65
Colgin Hospital and Clinic	35	16
Providence Sanitarium ★	150	104
Waxahachie, 7,958—Ellis		
New Waxahachie Sanitarium	32	20
Weatherford, 6,203—Parker		
Weatherford Sanitarium	35	18
Wharton, 2,346—Wharton		
Caney Valley Hospital	25	5
Wichita Falls, 40,079—Wichita		
Wichita General Hospital	110	70
Yoakum, 6,184—Lavaca		
Huth Memorial Hospital	50	13



Total hospitals in Texas, 244; for community use, 191, population per hospital bed, 494; percentage of beds occupied, 59, percentage of counties without hospitals, 62.1.

	Total Beds	Av Beds in Use
Moulton, 600—Lavaca		
Guenther Hospital	15	8
Nacogdoches, 3,546—Nacogdoches		
North Street Hospital	10	6
New Braunfels, 3,590—Comal		
City Hospital	14	6
Comal Sanitarium	30	12
Orange, 9,212—Orange		
Frances Ann Lutcher Hospital	65	38
Palestine, 11,403—Anderson		
International & Great North R R Emp Hospital	75	30
Palestine Sanitarium	25	12
Speegle's Sanitarium	12	7
Paris, 17,274—Lamar		
Sanitarium of Paris	50	43
St Joseph's Infirmary	50	24
Plainview, 3,989—Hale		
Plainview Sanitarium	32	22
Pt. Arthur, 31,513—Jefferson		
Mary Gates Memorial Hospital	60	43
Merchant Marine Hosp Service	10	3
Quanah, 3,691—Hardeman		
Quanah Sanitarium	25	15
Ranger, 16,205—Eastland		
City-County Hospital	30	10
San Angelo, 10,050—Tom Green		
The Bungalows (T B)	25	20
Prather Sanatorium (T B)	10	10
St John's Sanitarium	30	20
San Angelo Sanatorium for Tuberculosis	25	18
Southwest Sanatorium (T B)	40	35

	Total Beds	Av Beds in Use
Sherman, 16,528—Grayson		
Sherman Hospital	66	45
St Vincent's Sanitarium	100	25
Spur, 1,100—Dickens		
Nichols Sanitarium	20	12
Stamford, 3,704—Jones		
Stamford Sanitarium	50	30
Sugar Land, 200—Fort Bend		
Laura Eldridge Mem Hosp	15	10
Taylor, 5,965—Williamson		
Dr Floeckinger's Sanitarium	16	12
Taylor Sanitarium	20	10

	Total Beds	Av Beds in Use
Yorktown, 1,723—De Witt		
Allen Hospital	20	12
Seven General Hospitals of less than 10 beds	49	25
Total for community use, 191	10,317	6 160

In Texas the following one hundred and fifty-seven counties have no hospitals for community use Andrews, Aransas, Archer, Armstrong, Atascosa, Austin, Bailey, Bandera, Baylor, Blanco, Bosque, Brazoria, Brewster, Briscoe, Burleson, Burnet, Calhoun, Callahan, Carson, Cass, Castro, Chambers, Childress, Clay, Cochran, Coke, Collingsworth, Colorado, Comanche, Concho, Coryell, Cottle, Crane, Crockett, Crosby, Culberson, Dawson, Denton, Dimmit, Duval, Ector, Edwards, Erath Fisher, Floyd, Foard, Franklin, Frio, Gaines, Glasscock, Goliad, Gray, Grimes, Hall, Hansford, Hardin, Hartley, Haskell, Henderson, Hockley, Hood, Hopkins, Houston, Howard, Hudspeth, Hutchinson, Irion, Jack, Jackson, Jasper, Jeff Davis, Jim Hogg, Jim Wells, Karnes, Kent, Kimble, King, Kinney, Knox, LaSalle, Lamb, Lampasas Lee, Leon, Liberty, Lipscomb, Live Oak, Llano Loving, Lynn McMullen, Madison, Marion, Martin, Mason, Menard, Midland, Mills, Montague, Montgomery, Moore, Morris, Motley, Newton, Nolan, Ochiltree, Oldham Panola, Parmer, Pecos, Polk, Presidio, Rains, Randall, Reagan, Real, Red River, Reeves, Refugio, Roberts Robertson, Rusk, Sabine, San Jacinto San Patricio, San Saba, Schleicher, Scurry, Shackelford Shelby, Sherman Somervell, Starr, Sterling, Stonewall, Sutton, Swisher, Terrell, Terry, Throckmorton, Titus, Tyler, Upshur, Upton Uvalde, Val Verde, Van Zandt, Walker, Ward, Willacy, Wilson, Winkler, Wise, Wood, Yoakum, Zapata, Zavalla

UTAH

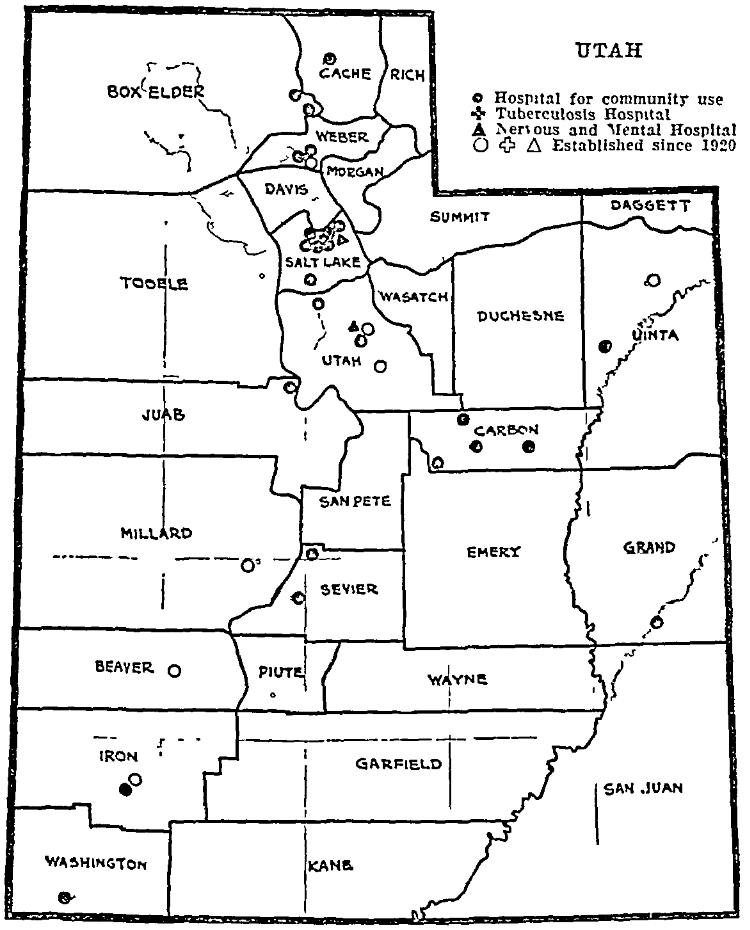
	Total Beds	Av Beds in Use
Bingham Canyon, 2,676—Salt Lake		
Bingham Hospital .	25	20
Brigham, 5,282—Box Elder		
Mahannah Hospital	10	5
Pearse Private Hospital	12	3
Cedar City, 2,462—Iron		
Iron County Hospital .	25	12
Lehi, 3,078—Utah		
Lehi Hospital	13	5
Logan, 9,439—Cache		
Utah Idaho Hospital	50	35
Mammoth, 970—Juab		
Tintic Hospital . ..	20	10
Milford, 1,308—Beaver		
Community Hospital	10	5
Ogden, 36,869—Weber		
Thomas D Dee Mem Hosp ★ .	130	90
Price, 2 364—Carbon		
Carbon County Hospital	25	6
Provo, 11,184—Utah		
Aird Hospital	20	8
Richfield, 3,262—Sevier		
Richfield General Hospital	10	3
Salina, 1,451—Sevier		
Salina Hospital .	20	9
Salt Lake City, 130 948—Salt Lake		
Dr W H Groves Latter Day Saints' Hospital ★ .	225	176
Holy Cross Hospital ★ .	225	143
Mountain View Sanit (N & M)	12	6
Salt Lake Co General Hosp ★	185	134
St Mark's Hospital ★	156	113
Spanish Fork, 4,036—Utah		
Hughes Memorial Hospital . .	10	5
St George, 2,215—Washington		
Washington County Hospital .	10	8
Vernal, 1,309—Uintah		
Vernal Hospital	10	4
Five General Hospitals of less than 10 beds	38	20
Total for community use, 26 . . .	1,241	820

In Utah the following fifteen counties have no hospitals for community use Daggett, Davis, Duchesne Emery, Garfield, Kane, Morgan Piute, Rich, San Juan, Sanpete, Summit, Tooele, Wasatch, Wayne

VERMONT

	Total Beds	Av Beds in Use
Barre, 10,008—Washington		
Barre City Hospital	50	28
Washington County Hosp (T B)	43	40
Bellows Falls, 4 860—Windham		
Rockingham General Hospital .	28	19
Bennington, 7,230—Bennington		
Henry W Putnam Mem Hosp	47	39
Brattleboro, 7,324—Windham		
Brattleboro Memorial Hospital ..	45	25
Brattleboro Retreat (N & M) ..	500	484
Melrose Hospital ..	35	18
Burlington 24 089—Chittenden		
Bishop De Goesbriand Hosp .	100	80
Green Mountain Sanatorium	16	8
Lakeview Sanitarium (N & M)	25	16
Mary Fletcher Hospital ★ ..	130	88
The Sparhawk Sanitarium ..	15	13
Hardwick, 1 550—Caledonia		
Hardwick Hospital	16	10
Montpelier, 7,125—Washington		
Heaton Hospital . .	61	43
Newport, 4,976—Orleans		
Orleans County Memorial Hosp	40	22
Orleans 1,358—Orleans		
Orleans Hospital . . .	10	5
Pittsford, 1,200—Rutland		
Caverly Preventorium	44	44
Proctor, 2,692—Rutland		
Proctor Hospital	35	18
Randolph, 1,819—Orange		
[illegible] .	50	15
[illegible]		
[illegible]	60	47
Springfield, 5 283—Windsor		
Springfield Hospital . .	30	16
St Albans, 7,598—Franklin		
Sherwood Sanitarium ...	10	8
St Albans Hospital ...	50	26
St Johnsbury, 7,163—Caledonia		
Brightlook Hospital Ass n . .	34	27
Frost Sanitarium . .	17	8
St Johnsbury Hospital	21	16
Winooski, 4,932—Chittenden		
Fanny Allen Hospital	55	22
One General Hospital of less than 10 beds	6	3
Total for community use, 28	1 573	1,188

In Vermont the following four counties have no hospitals for community use Addison Essex, Grand Isle, Lamoille



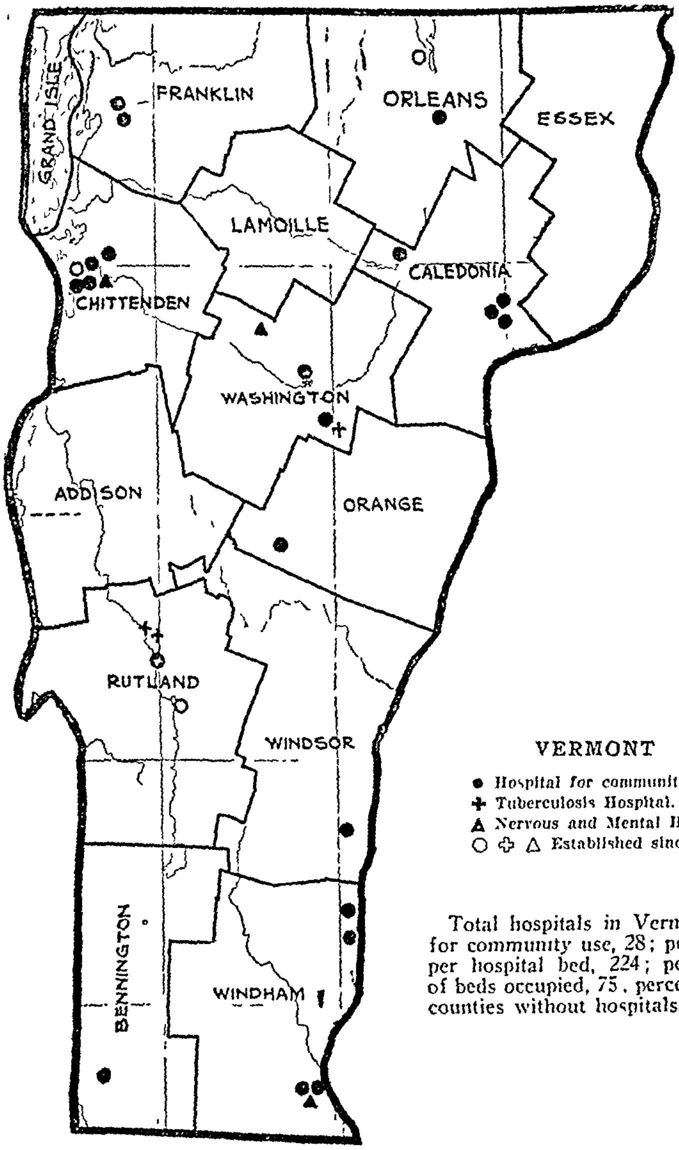
Total hospitals in Utah, 38, for community use, 26, population per hospital bed, 396, percentage of beds occupied, 65, percentage of counties without hospitals, 51 7.

VIRGINIA

	Total Beds	Av Beds in Use
Abingdon, 2,532—Washington		
Geo Ben Johnson Mem Hosp	53	41
Alexandria, 18 473—Arlington		
Alexandria Hospital .	50	45
Bristol, 6,729—Washington		
King s Mountain Memorial Hosp	50	25
Brook Hill, —— —Henrico		
Pine Camp Hospital (T B)	92	70
Charlottesville, 11,211—Albemarle		
Martha Jefferson Hospital, Inc	55	32
Chase City, 1,646—Mecklenburg		
Chase City Hospital	26	12
Christiansburg 1,641—Montgomery		
New Altamont Hospital	25	8
Clifton Forge, 6,164—Allegheny		
Chesapeake & Ohio Ry Hosp	95	52
Dante, 800—Russell		
Clinchfield Hospital ..	20	10
Danville, 22,964—Pittsylvania		
Danville General Hospital ..	77	29
Edmunds Hospital, Inc .	50	29
Hilltop Sanatorium (T B) . .	35	35
Floyd 390—Floyd		
The Floyd Hospital . ..	10	3
Fredericksburg, 5,882—Spotsylvania		
Mary Washington Hospital . .	40	38
Hampton, 5,505—Elizabeth City		
Hampton School Hospital .	75	32
Harrisonburg, 5,875—Rockingham		
Rockingham Memorial Hosp ..	60	35
Hopewell, 1,397—Prince George		
Hopewell Hospital	30	12
Lebanon, 469—Russell		
St Ann s Hospital	14	6
Leesburg 1,545—Loudoun		
Loudoun County Hospital	25	14
Lexington 2 870—Rockbridge		
Stonewall Jackson Mem Hosp	35	15
Lynchburg, 30 395—Campbell		
Lynchburg General Hospital .	85	56
Marshall Lodge Memorial Hosp	75	50
Martinsville, 3 746—Henry		
Lucy Lester General Hospital..	30	11
Shackelford Hospital .	30	25
Newport News, 47,083—Warwick		
Elizabeth Buxton Hospital .	90	46
Riverside Hospital ..	62	30
Whittaker Memorial Hospital...	50	25
Norfolk, 115 777—Norfolk		
Children s Hospital & Clinic .	16	10
Hospital of St Vincent de Paul ★	250	160
Mt Sinai Hospital . .	50	12
Norfolk Protestant Hospital ★ .	150	90
Sarah Leigh Hospital	70	52
St Christopher s Hospital . ..	25	20
Tidewater Hospital . ..	15	8
Petersburg, 35 712—Dinwiddie		
Crowder Memorial Hosp (Col)	25	7
Petersburg Hospital ...	80	57
Portsmouth, 59 029—Norfolk		
King s Daughters Hospital ...	68	40
Parrish Memorial Hospital ..	50	20
Pulaski, 5,277—Pulaski		
Pulaski Hospital ..	15	8
Radford, 4 627—Montgomery		
St Alban s Sanat (N & M)	[illegible]	21
Richlands 1,171—Tazewell		
Mattie Williams Hospital. . ..	27	20

	Total Beds	Av.Beds in Use
Richmond, 186,403—Henrico		
Grace Hospital	45	31
Hygeia Hospital	50	35
Johnston-Willis Hospital	82	71
Medical College of Va. Hosp.★	408	252
Retreat for the Sick★	100	73
Sara G. Jones Memorial Hosp.	25	14
Schermerhorn's School (N.& M.)	10	8
Sheltering Arms Free Hosp.	60	30
St. Elizabeth's Hospital	50	33
St. Luke's Hospital	82	65
Stuart Circle Hospital	112	50
Tucker Sanatorium	50	35
Westbrook Sanatorium (N.& M.)	125	112
Roanoke, 58,208—Roanoke		
Burrell Memorial Hospital	39	20
Jefferson Hospital★	100	82
Lewis-Gale Hospital	54	37
[illegible]	120	31
[illegible]	50	25
[illegible]	31	17
Salem, 4,159—Roanoke		
Mt. Regis Sanatorium (T.B.)	65	45
South Boston, 4,338—Halifax		
Halcyon Hospital	35	20
Staunton, 10,633—Augusta		
King's Daughters' Hospital	60	33
Stonega, 250—Wise		
Stonega Hospital	18	5
Stuart, 401—Patrick		
St. Martin's Hospital	40	10
Suffolk, [illegible]		
Lake [illegible]	52	35
Virgin [illegible]	20	15
Toms Cr [illegible]		
Toms Creek Hospital	20	5
University, 1,000—Albemarle		
University of Virginia Hosp.★	260	225
Victoria, 1,445—Lunenburg		
Kendig Brothers Hospital	16	12
Virginia Beach, 846—Princess Anne		
Virginia Beach Infant Sanit.	50	45
Winchester, 6,883—Frederick		
Winchester Memorial Hospital	70	51
Total for community use, 56	3,701	2,335

In Virginia the following sixty counties have no hospitals for community use: Amelia, Amherst, Appomattox, Bath, Bedford, Bland, Botetourt, Brunswick, Buchanan, Buckingham, Carroll, Charles City, Charlotte, Clarke, Craig, Culpeper, Cumberland, Dickenson, Essex, Fairfax, Fauquier, Fluvanna, Franklin, Giles, Gloucester, Goochland, Grayson, Greene, Greensville, Highland, Isle of Wight, James City, King and Queen, King George, King William, Lancaster, Lee, Louisa, Madison, Mathews, Middlesex, Nelson, New Kent, Northumberland, Orange, Page, Powhatan, Prince Edward, Rappahannock, Richmond, Scott, Shenandoah, Smyth, Southampton, Stafford, Sussex, Warren, Westmoreland, Wythe, York.



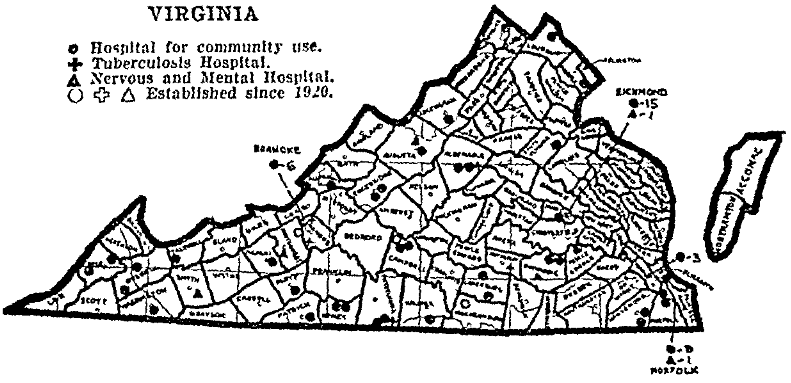
VERMONT

● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✤ △ Established since 1920.

Total hospitals in Vermont, 39; for community use, 28; population per hospital bed, 224; percentage of beds occupied, 75. percentage of counties without hospitals, 28 5.

WASHINGTON

	Total Beds	Av Beds in Use
Aberdeen, 16,174—Grays Harbor		
Aberdeen General Hospital	65	54
St. Joseph's Hospital	63	35
Anacortes, 5,284—Skagit		
Anacortes Hospital	12	5
Arlington, 2,028—Snohomish		
Arlington General Hospital	15	7
Auburn, 3,163—King		
Taylor-Lacey Hospital	50	37
Bellingham, 26,229—Whatcom		
Miss Smith's Private Hosp.	12	6
St. Joseph's Hospital	75	36
St. Luke's Hospital	42	37
Burlington, 1,360—Skagit		
Burlington General Hospital	46	20
Chehalis, 4,558—Lewis		
Chehalis General Hospital	15	7
St. Helen's Hospital	35	25
Clearlake, 153—Skagit		
Clearlake Hospital	20	10
Colfax, 3,027—Whitman		
St. Ignatius Hospital	50	40
College Place, —— —Walla Walla		
Walla Walla Sanitarium	50	18
Colville, 1,796—Stevens		
Mt. Carmel Hospital	23	12
Eatonville, 861—Pierce		
Eatonville General Hospital	25	14
Ellensburg, 3,810—Kittitas		
Ellensburg General Hospital	21	12
Elma, 1,253—Grays Harbor		
Elma General Hospital	20	14
Oakhurst Sanatorium (T.B.)	40	36
Everett, 29,303—Snohomish		
General Hospital	75	55
Providence Hospital	110	45
Hoquiam, 11,126—Grays Harbor		
Hoquiam General Hospital	67	38
Lake View, —— —Pierce		
Mountain View Sanat. (T.B.)	115	83
Leavenworth, 1,791—Chelan		
Cascade Sanitarium	15	11
McCleary, 180—Grays Harbor		
McCleary General Hospital	20	5
Monroe, 1,675—Snohomish		
Monroe General Hospital	15	7
Mt. Vernon, 3,341—Skagit		
Mt. Vernon General Hosp.	25	22
Newport, —— —Pend Oreille		
Newport Hospital	20	10
Olympia, 8,537—Thurston		
Maxwell Maternity Home	12	6
St. Peter's Hospital	125	90
Omak, 300—Okanogan		
Omak Hospital	10	6
Oroville, 1,013—Okanogan		
Oroville Hosp & Sanit.	12	7
Pasco, 3,362—Franklin		
Our Lady of Lourdes Hospital	50	22
Port Angeles, 5,351—Clallam		
Port Angeles General Hospital	23	18
Resthaven Hospital	20	18
Pt. Orchard, 1,393—Kitsap		
Sunnyvale Hospital	25	14
Pt. Townsend, 2,847—Jefferson		
St. John's Hospital	95	40



VIRGINIA

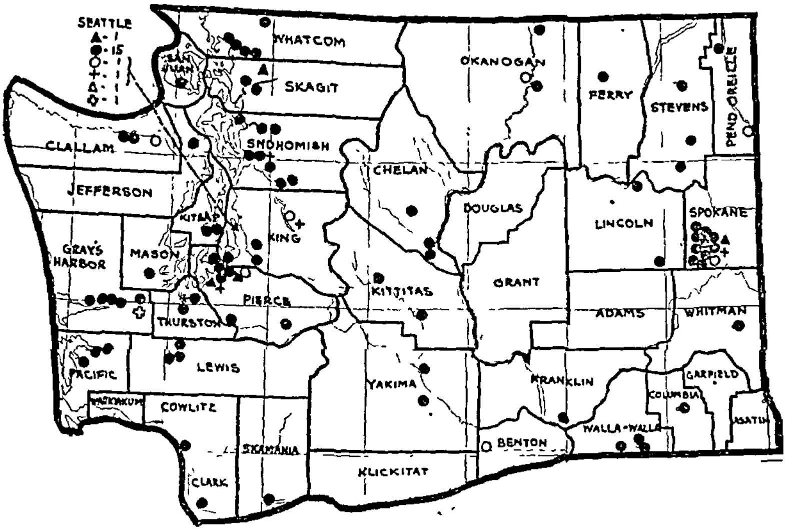
● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✤ △ Established since 1920.

Total hospitals in Virginia, 106; for community use, 56; population per hospital bed, 661; percentage of beds occupied, 63; percentage of counties without hospitals, 60.0.

	Total Beds	Av.Beds in Use
Puyallup, 6,323—Pierce		
Pudget Sound Sanat. (N.& M.)	25	18
Valley Hospital	30	15
Raymond, 4,260—Pacific		
Riverview Hospital	36	17
Renton, 3,301—King		
Renton Hospital	20	10
Republic, 781—Ferry		
Republic Hospital	12	4
Richmond Highlands, ——— —King		
Firland Sanatorium (T.B.)	240	214
Roslyn, 2,673—Kittitas		
Roslyn Cle Elum Beneficial Co.	25	17
Seattle, 315,312—King		
Children's Orthopedic Hospital	128	87
Columbus Hospital	150	88
King County Hospital ★	220	188
Laurel Beach Sanatorium (T.B.)	50	45
Meadows Sanatorium (N.& M.)	40	27
Meridian Convalescent Sanit.	25	18
Minor Hospital	70	56
Norwegian Hospital	35	16
Providence Hospital	300	260
Riverton Sanatorium (T.B.)	60	40
Seattle City Hospital ★	125	102
Seattle General Hospital ★	110	90
St. Luke's Hospital	52	34
Swedish Hospital ★	122	100
Virginia Mason Hospital ★	100	72
Sequim, 250—Clallam		
Sequim Prairie Hospital	14	5
Shelton, 984—Mason		
Shelton General Hospital	36	25
Snohomish, 2,985—Snohomish		
Aldercrest Sanatorium (T.B.)	40	37
Snohomish General Hospital	15	5
Snoqualmie Falls, 362—King		
Snoqualmie Falls Hospital	50	25
South Bend, 3,023—Pacific		
South Bend General Hospital	35	12
Spokane, 108,897—Spokane		
Edgecliff Sanatorium (T.B.)	166	104
Maria Beard Deaconess Hosp.★	200	125
Park Hill Hospital	15	8
Payne Private Sanat. (N.& M.)	10	5
Rivercrest Hospital	100	30
Sacred Heart Hospital	311	220
Spokane City Emergency Hosp.	10	6
St. Luke's Hospital ★	170	120
Sprague, —— —Lincoln		
Sprague Hospital	10	4
Sultan, 576—Snohomish		
The Sultan Hospital	15	8
Sumas, 854—Whatcom		
Sumas General Hospital	*10*	3
Tacoma, 104,455—Pierce		
Northern Pacific Beneficial Ass'n. Hospital ★	131	66
Pierce County Hospital	120	30
St. Joseph's Hospital	200	150
Tacoma General Hospital ★	210	120
Toppenish, 3,120—Yakima		
Toppenish Hospital	25	25
Valley, 400—Stevens		
Cartwright Sanitarium	18	9
Vancouver, 14,526—Clarke		
St. Joseph's Hospital	90	42
Walla Walla, 15,503—Walla Walla		
St. Mary's Hospital	100	80
Wenatchee, 6,324—Chelan		
Central Washington Deaconess Hospital	40	30
St. Anthony's Hospital	50	28
Yakima, 22,664—Yakima		
St. Elizabeth's Hospital	122	100
Five General Hospitals of less than 10 beds	40	19
Total for community use, 92	5,841	3,887

In Washington the following eight counties have no hospitals for community use: Adams, Asotin, Douglas, Garfield, Grant, Jefferson, Klickitat, Wahkiakum.

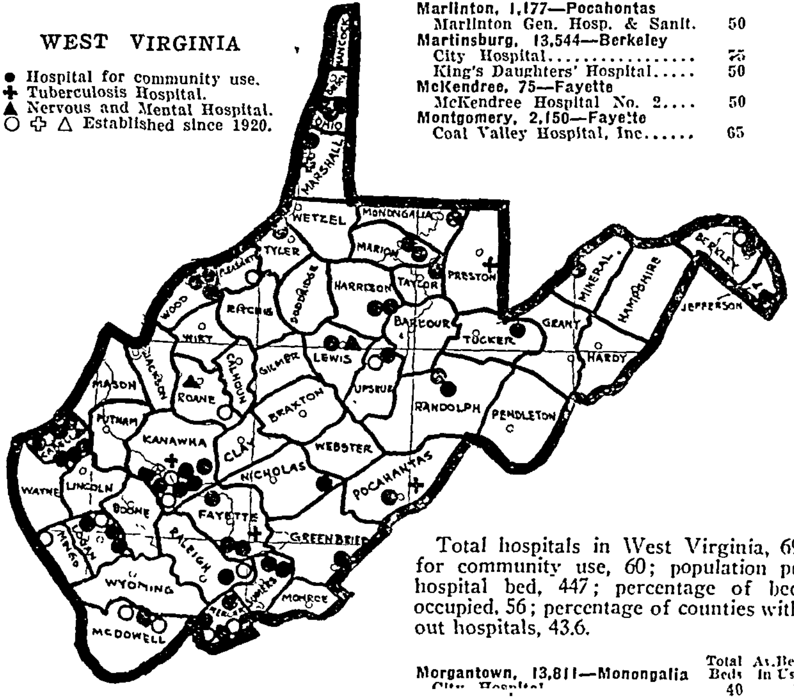
WASHINGTON



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Washington, 135; for community use, 92; population per hospital bed, 253; percentage of beds occupied, 66; percentage of counties without hospitals, 20.5.

WEST VIRGINIA



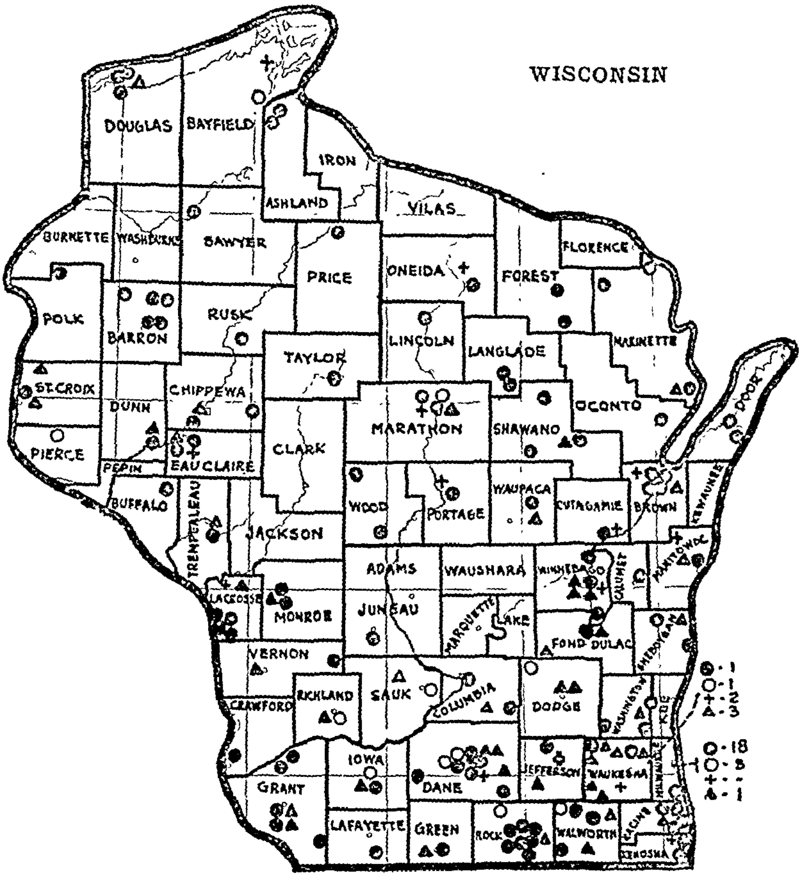
● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in West Virginia, 69; for community use, 60; population per hospital bed, 447; percentage of beds occupied, 56; percentage of counties without hospitals, 43.6.

WEST VIRGINIA	Total Beds	Av.Beds in Use
Beckley, 2,161—Raleigh		
Beckley Hospital	75	37
Kings Daughters' General Hosp.	70	19
Bluefield, 19,347—Mercer		
Bluefield Sanitarium	85	43
St. Luke's Hospital	75	42
Buckhannon, 3,785—Upshur		
Buckhannon Hospital	30	15
St. Joseph's Hospital	30	15
Charleston, 49,019—Kanawha		
Charleston General Hospital ★	200	110
Hill Crest Sanatorium (T.B.)	30	24
Kanawha Valley Hosp. & Sanit.	70	35
Dr. Lewis Prichard Free Clinical Hospital	32	20
McMillan Hospital	50	24
Mountain State Hospital	112	54
St. Francis Hospital	100	25
Staats Hospital	22	16
Charles Town, 2,527—Jefferson		
Charles Town General Hospital	25	14
Clarksburg, 30,402—Harrison		
Mason Hospital	40	25
St. Mary's Hospital	125	76
Davis, 2,491—Tucker		
Allegheny Heights Hospital	35	20
Elkins, 6,788—Randolph		
Davis Memorial Hospital	50	25
Elkins City Hospital	38	25
Fairmont, 20,959—Marion		
Cook Hospital	73	50
Fairmont Hospital No. 3	85	46
Glen Dale, 213—Marshall		
Reynolds Memorial Hospital	65	35
Grafton, 8,517—Taylor		
Grafton City Hospital	20	18
Hinton, 3,656—Summers		
Hinton Hospital	75	30
Huntington, 63,485—Cabell		
Barnett Hospital	40	22
Chesapeake & Ohio Ry. Hosp.	70	54
Guthrie Hospital	55	38
Hawes-Marple Hospital	22	5
Huntington Children's Hospital	55	52
Huntington E. E. & T. Hospital	10	4
Kessler-Hatfield Hospital	92	77
Steenberger Women's Hospital	10	6
Keyser, 6,003—Mineral		
Hoffman Hospital	25	17
Kimball, 1,045—McDowell		
Harrison Memorial Hospital	25	20
Logan, 2,998—Logan		
Logan Hospital	100	28
Lundale, 525—Logan		
Lundale Hospital	35	15
Marlinton, 1,177—Pocahontas		
Marlinton Gen. Hosp. & Sanit.	50	24
Martinsburg, 13,544—Berkeley		
City Hospital	75	30
King's Daughters' Hospital	50	30
McKendree, 75—Fayette		
McKendree Hospital No. 2	50	23
Montgomery, 2,150—Fayette		
Coal Valley Hospital, Inc.	65	52
Morgantown, 13,811—Monongalia		
City Hospital	40	18
[illegible]	10	8
[illegible]	50	18
Parkersburg, 21,299—Wood		
Camden Clark Mem. Hospital	75	38
St. Joseph's Hospital	100	42
Princeton, 6,224—Mercer		
Memorial Hospital	50	25
Princeton Hospital	40	20
Richwood, 4,331—Nicholas		
McClung Hospital	50	30

	Total Beds	Av.Beds in Use
Ronceverte, 2,319—Greenbrier		
Dr. Love's Private Hospital....	50	34
Sistersville, 3,238—Tyler		
Sistersville General Hospital...	10	4
South Charleston, 3,650—Kanawha		
Dunn Hospital.................	25	10
Spencer, 1,765—Roane		
City Hospital.................	25	16
Welch, 3,232—McDowell		
Grace Hospital	38	29
Welch Hospital No. 1.........	115	57
Wheeling, 56,208—Ohio		
Ohio Valley General Hosp.★...	173	159
Wheeling Hospital★...........	225	150
Williamson, 6,819—Mingo		
Williamson Hospital...........	55	30
One General Hospital of less than 10 beds.....................	8	1
Total for community use, 60......	3,580	2,029

In West Virginia the following twenty-four counties have no hospitals for community use: Barbour, Boone, Braxton, Brooke, Clay, Doddridge, Gilmer, Grant, Hampshire, Hancock, Hardy, Jackson, Lincoln, Mason, Monroe, Pendleton, Preston, Putnam, Ritchie, Wayne, Webster, Wetzel, Wirt, Wyoming.



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✚ △ Established since 1920.

Total hospitals in Wisconsin, 226; for community use, 153; population per hospital bed, 224; percentage of beds occupied, 74; percentage of counties without hospitals, 15.4.

WISCONSIN

	Total Beds	Av.Beds in Use
Antigo, 8,451—Langlade		
Antigo Hospital...............	20	12
City Hospital.................	25	15
Appleton, 21,140—Outagamie		
St. Elizabeth's Hospital★.....	200	125
Ashland, 11,334—Ashland		
Ashland General Hospital....	67	39
St. Joseph's Hospital★........	150	98
Baraboo, 5,538—Sauk		
St. Mary's Ringling Hospital...	24	8
Barron, 1,623—Barron		
Barron City Hospital..........	22	15
River Side Hospital...........	15	7
Beaver Dam, 7,992—Dodge		
Lutheran Deaconess Hospital..	24	18
Beloit, 24,771—Rock		
Beloit General Hospital.......	18	8
Beloit Hospital...............	24	11
Dr. Newman's Sanitarium.....	17	6
H. P. Strong Emergency Hosp.	20	8
Boscobel, 1,670—Grant		
Brookside Hospital...........	14	8
Parker Hospital..............	14	5
Chippewa Falls, 9,130—Chippewa		
St. Joseph's Hospital.........	180	150
Columbus, 2,460—Columbia		
St. Mary's Hospital...........	24	15
Cumberland, 1,528—Barron		
Island City Hospital..........	20	16
Dodgeville, 1,791—Iowa		
Dodgeville Lutheran Hospital..	20	9
Iowa County Insane Asylum...	140	110
St. Joseph's Hospital..........	50	25
Eau Claire, 22,375—Eau Claire		
Eau Claire Co. Insane Asylum	191	185
Luther Hospital...............	115	70
Mt. Washington Sanat. (T.B.).	55	55
Sacred Heart Hospital.........	169	100
Edgerton, 2,688—Rock		
Edgerton Memorial Hospital...	20	8
Elkhorn, 1,991—Walworth		
Walworth Co. Hospital.........	16	9
Fond du Lac, 26,049—Fond du Lac		
Fond du Lac County Insane Asylum	250	240
St. Agnes' Hospital...........	230	117
Frederic, 511—Polk		
Frederic Hospital.............	14	9
Green Bay, 34,290—Brown		
Bellin Memorial Hospital......	65	52
Brown Co. Insane Asylum.....	140	136
St. Mary's Hospital...........	100	50
St. Vincent's Hospital.........	200	120
Hartford, 4,515—Washington		
Hartford General Hospital......	20	4
Hudson, 3,014—St. Croix		
Hudson Sanatorium............	60	35
Janesville, 20,785—Rock		
Mercy Hospital................	150	75
Jefferson, 2,572—Jefferson		
Forest Lawn Sanatorium (T.B.)	50	50
Kenosha, 50,891—Kenosha		
Kenosha Hospital..............	75	53
St. Catherine's Hosp. & Sanit.	50	35
Willowbrook Sanatorium (T.B.)	36	32
La Crosse, 30,421—La Crosse		
Grandview Hospital...........	86	71
La Crosse Hospital Association	40	30
La Crosse Lutheran Hospital★	110	72
St. Francis Hospital★.........	200	155
Ladysmith, 3,581—Rusk		
St. Mary's Hospital...........	35	21
Lake Geneva, 2,632—Walworth		
Cottage-by-the-Shore	10	5
Lake Geneva Sanit. (N.& M.)..	50	25
Lancaster, 2,485—Grant		
Drs. Doolittle Hospital.........	15	8
Laona, 700—Forest		
Ovitz Hospital................	18	10
Little Chute, 2,017—Outagamie		
Riverview Sanatorium (T.B.)...	34	32
Madison, 46,385—Dane		
East Washington Hospital......	50	15
Madison General Hospital★....	120	96
Madison Methodist Hospital....	50	35
Madison Sanit. & Hospital....	50	22
Morningside Sanat. (T.B.).....	30	19
St. Mary's Hospital★..........	100	75
State of Wisconsin Gen. Hosp.★	400	225
Manitowoc, 22,132—Manitowoc		
Holy Family Hospital..........	80	70
Marinette, 13,610—Marinette		
Marinette & Menominee Hosp..	60	32
Marshfield, 7,394—Wood		
St. Joseph's Hospital★.........	130	110
Mauston, 1,966—Juneau		
Mauston Hospital..............	40	20
Medford, 1,881—Taylor		
Medford Clinic Hospital.......	13	9
Menomonie, 5,104—Dunn		
Dunn County Asylum (N.& M.)	117	111
Menomonie City Hospital.......	20	12
Mendota, 100—Dane		
Wisconsin Mem. Hosp. (N.& M.)	260	240
Milwaukee, 509,192—Milwaukee		
Columbia Hospital★...........	110	73
Evangelical Deaconess Hosp.★..	118	74
Hanover General Hospital......	52	39
Johnston Emergency Hospital...	35	15
Lincoln Hosp. (Rosenheimer's)	14	12
Marquette University Hospital★	155	102
Milwaukee Children's Hospital†	135	120
Milwaukee Hosp. "The Passavant"★	135	120
Milwaukee Infant's Hospital...	50	30
Milwaukee Maternity & General Hospital	69	31
Milwaukee North Side Sanit...	14	2
Misericordia Hospital†..........	75	50
Mt. Sinai Hospital★...........	125	120
Ogden Hospital................	20	10
The Riverside Sanitarium......	50	45
Roosevelt General Hospital....	35	20
Sacred Heart Sanitarium.......	300	150
South Side Hospital...........	30	15
South View Hospital†..........	190	60
St. Joseph's Hospital★.........	140	90
St. Mary's Hill Sanit. (N.& M.)	112	103
St. Mary's Hospital★..........	190	143
St. Vincent's Infant Asylum & Maternity Hospital	125	125
Mondovi, 1,554—Buffalo		
Mondovi Hospital..............	12	7
Monroe, 4,788—Green		
Evangelical Deaconess Hospital.	35	17
Neenah, 7,171—Winnebago		
Theda Clark Memorial Hospital	52	35
Niagara, 1,946—Marinette		
Niagara Hospital..............	12	5
Oconomowoc, 3,301—Waukesha		
Oconomowoc Health Resort (N.& M.)	70	60
Oconomowoc Sanit. (N.& M.)..	14	10
Summit Hospital...............	60	32
Oconto, 4,920—Oconto		
Oconto County & City Hosp....	20	12
Onalaska, 1,066—La Crosse		
Oak Forest Sanatorium (T.B.)	60	56
Oshkosh, 33,217—Winnebago		
Alexian Brothers Hospital (N.& M.)	65	55
St. Mary's and Mercy Hosp.★..	150	77
Park Falls, 2,676—Price		
Park Falls Hospital...........	30	15
Pewaukee, 800—Waukesha		
Oak Sanatorium (T.B.).......	40	39
Platteville, 4,353—Grant		
Buck Hospital.................	10	5
Wilson Cunningham Hospital...	20	15
Plymouth, 3,415—Sheboygan		
Plymouth Hospital	21	15
Portage, 5,582—Columbia		
St. Saviors General Hospital..	40	40
Prairie du Chien, 3,537—Crawford		
Old Sanitarium & Hotel........	10	8
Prairie du Chien Sanit. & Hosp.	70	24
Pureair, (Bayfield P.O.), —— —Bayfield		
Pureair Sanatorium (T.B.).....	70	65
Racine, 67,707—Racine		
St. Luke's Hospital............	60	45
St. Mary's Hospital............	80	70
Sunny Rest Sanatorium (T.B.)	49	46

	Total Beds	Av. Beds in Use
Rhinelander, 6,654—Oneida		
St. Mary's Hospital	65	30
Rice Lake, 4,457—Barron		
Lakeside Methodist Hospital	33	18
Richland Center, 3,409—Richland		
Richland Hospital	25	12
Sheboygan, 33,535—Sheboygan		
St. Nicholas Hospital	100	84
Shullsburg, 1,158—Lafayette		
Dr. Ennis' Hospital	15	7
South Milwaukee, 7,598—Milwaukee		
South Milwaukee Hospital	16	6
Sparta, 4,466—Monroe		
St. Mary's Hospital	75	40
Stanley, 2,577—Chippewa		
Victory Hospital	12	7
Stevens Point, 12,889—Portage		
River Pines Sanatorium (T.B.)	50	40
St. Michael's Hospital	30	20
Stoughton, 5,101—Dane		
Stoughton Hospital Ass'n	16	8
Sturgeon Bay, 4,553—Door		
Egeland Hospital	20	15
Physicians and Surgeons Hosp.	15	10
Superior, 39,671—Douglas		
St. Francis Hospital	55	25
St. Mary's Hospital *	110	76
Tomahawk, 2,801—Lincoln		
Sacred Heart Hospital	50	12
Washburn, 3,707—Bayfield		
Washburn Hospital	14	4
Watertown, 9,299—Jefferson		
St. Mary's Hospital	50	30
Waukesha, 14,720—Waukesha		
Waukesha Municipal Hospital	23	18
Waukesha Springs Sanitarium (N.& M.)	50	40
Wausau, 20,101—Marathon		
"Mount View" Marathon Co. Tuberculosis Sanatorium	50	45
St. Mary's Hospital	118	80
Wausau Memorial Hospital	52	40

	Total Beds	Av. Beds in Use
Wauwatosa, 5,818—Milwaukee		
Blue Mound Sanatorium (T.B.)	100	70
Milwaukee Co. Asylum for Chronic Insane	890	876
Milwaukee County Hospital *	308	298
Milwaukee Hospital for Insane	888	824
Milwaukee Sanitarium (N.&M.)	98	94
Muirdale Sanatorium (T.B.)	350	326
West Bend, 3,378—Washington		
Dr. Lynch's Sanatorium	11	11
West DePere, —— —Brown		
Hickory Grove Sanatorium (T.B.)	40	39
Whitehall, 851—Trempealeau		
Whitehall Community Hospital	40	25
Whitelaw, —— —Manitowoc		
Maple Crest Sanitarium (T.B.)	39	34
Winnebago, 57—Winnebago		
Sunny View Sanatorium (T.B.)	65	60
Wisconsin Rapids, 6,521—Wood		
Riverview Hospital	30	25
Wittenberg, 854—Shawano		
Wittenberg Hospital Ass'n	15	12
Five General Hospitals of less than 10 beds	33	15
Total for community use, 153	12,492	9,341

In Wisconsin the *following* eleven counties have no hospitals for community use: Adams, Clark, Florence, Green Lake, Iron, Jackson, Kewaunee, Marquette, Vilas, Washburn, Waushara.

WYOMING

	Total Beds	*Av. Beds in Use*
Basin, 763—Bighorn		
Basin Hospital Company	15	4
Casper, 11,447—Natrona		
Casper Private Hospital	75	45
Dr. Keith's Private Hospital	10	6
Lincoln Street Hospital	20	12
Natrona Memorial Hospital	90	60
Women's and Children's Hospital	20	15

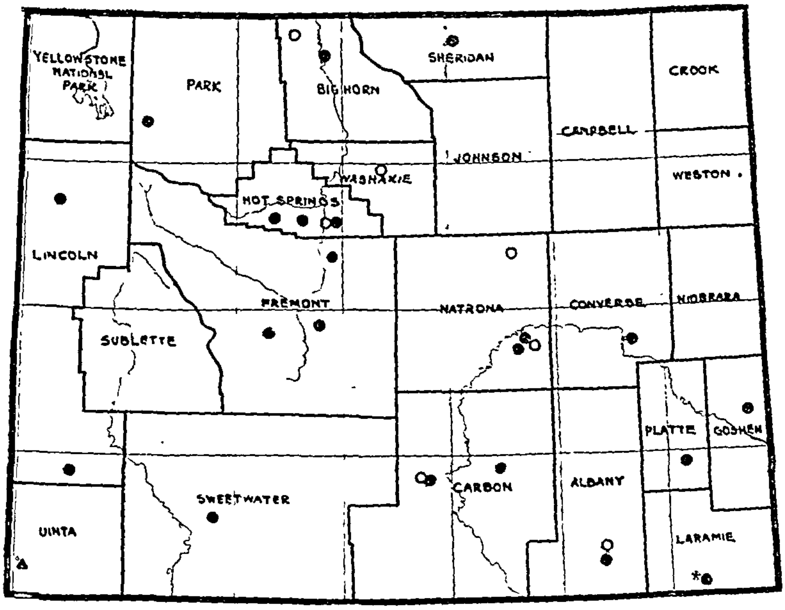
	Total Beds	Av. Beds in Use
Cheyenne, 13,829—Laramie		
Laramie Co. Isolation Hospital	12	1
Laramie Co. Memorial Hospital	150	75
Douglas, 2,775—Converse		
Douglas Hospital	17	9
Gebo, 75—Hot Springs		
Gebo Hospital	20	12
Grass Creek, —— —Hot Springs		
Ohio Grass Creek Hospital	10	3
Hanna, 2,000—Carbon		
Hanna Hospital	10	6
Kemmerer, 1,517—Lincoln		
Lincoln Co. Miners Hospital	40	23
Lander, 2,133—Fremont		
Bishop Randall Hospital	20	10
Laramie, 6,301—Albany		
Ivinson Memorial Hospital	44	20
Powell, 2,463—Park		
Whitlock Hospital	16	6
Sheridan, 9,175—Sheridan		
Sheridan Co. Memorial Hospital	53	25
Shoshoni, 561—Fremont		
Dr. Jewell's Hospital	11	3
Thermopolis, 2,095—Hot Springs		
Hopewell Hospital	35	25
McGannon Sanitarium	20	12
Wheatland, 1,356—Platte		
Wheatland General Hospital	60	40
Three General Hospitals of less than 10 beds	19	17
Total for community use, 24	767	429

In Wyoming the following seven counties have no hospitals for community use: Campbell, Crook, Johnson, Niobrara, Sublette, Uinta, Weston.

GRAND TOTALS

One hundred and eighty-nine General Hospitals of less than 10 beds	1,330	636
For community use, 4,967	388,690	269,494

WYOMING

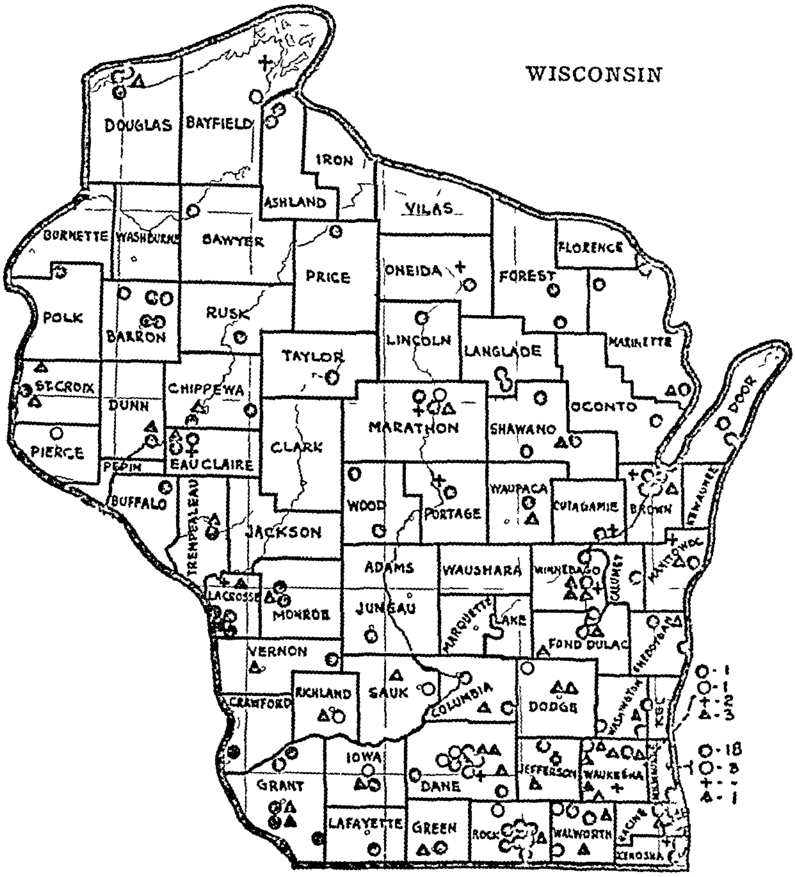


● Hospital for community use. ▲ Nervous and Mental Hospital.
✚ Tuberculosis Hospital. ○ ✚ △ Established since 1920.

Total hospitals in Wyoming, 37; for community use, 24; population per hospital bed, 289; percentage of beds occupied, 55; percentage of counties without hospitals, 31.8.

	Total Beds	Av Beds in Use
Ronceverte, 2,319—Greenbrier		
Dr. Lore's Private Hospital	50	34
Sistersville, 3,238—Tyler		
Sistersville General Hospital	10	4
South Charleston, 3,650—Kanawha		
Dunn Hospital	25	10
Spencer, 1,765—Roane		
City Hospital	25	16
Welch, 3,232—McDowell		
Grace Hospital	38	29
Welch Hospital No. 1	115	57
Wheeling, 56,208—Ohio		
Ohio Valley General Hosp ★	173	139
Wheeling Hospital ★	225	150
Williamson, 6,819—Mingo		
Williamson Hospital	55	30
One General Hospital of less than 10 beds	8	1
Total for community use, 60	3,580	2,029

In West Virginia the following twenty-four counties have no hospitals for community use Barbour, Boone, Braxton, Brooke, Clay, Doddridge, Gilmer, Grant, Hampshire, Hancock, Hardy, Jackson, Lincoln, Mason, Monroe, Pendleton, Preston, Putnam, Ritchie, Wayne, Webster, Wetzel, Wirt, Wyoming



● Hospital for community use.
✚ Tuberculosis Hospital.
▲ Nervous and Mental Hospital.
○ ✣ △ Established since 1920.

Total hospitals in Wisconsin, 226; for community use, 153, population per hospital bed, 224; percentage of beds occupied, 74; percentage of counties without hospitals, 15.4.

WISCONSIN

	Total Beds	Av Beds in Use
Antigo, 8,451—Langlade		
Antigo Hospital	20	12
City Hospital	25	15
Appleton, 21,140—Outagamie		
St. Elizabeth's Hospital ★	200	125
Ashland, 11,334—Ashland		
Ashland General Hospital	67	39
St. Joseph's Hospital ★	150	98
Baraboo, 5,538—Sauk		
St Mary's Ringling Hospital	24	8
Barron, 1,623—Barron		
Barron City Hospital	22	15
River Side Hospital	15	7
Beaver Dam, 7,992—Dodge		
Lutheran Deaconess Hospital	24	18
Beloit, 24,771—Rock		
Beloit General Hospital	18	8
Beloit Hospital	24	11
Dr. Newman's Sanitarium	17	6
H. P. Strong Emergency Hosp	20	8
Boscobel, 1,670—Grant		
Brookside Hospital	14	8
Parker Hospital	14	5
Chippewa Falls, 9,130—Chippewa		
St. Joseph's Hospital	180	150
Columbus, 2,460—Columbia		
St Mary's Hospital	24	15
Cumberland, 1,528—Barron		
Island City Hospital	20	16
Dodgeville, 1,791—Iowa		
Dodgeville Lutheran Hospital	20	9
Iowa County Insane Asylum	140	110
St Joseph's Hospital	50	25
Eau Claire, 22,375—Eau Claire		
Eau Claire Co Insane Asylum	191	185
Luther Hospital	115	70
Mt. Washington Sanat (T B)	55	55
Sacred Heart Hospital	160	100
Edgerton, 2,688—Rock		
Edgerton Memorial Hospital	20	8
Elkhorn, 1,991—Walworth		
Walworth Co. Hospital	16	9
Fond du Lac, 26,049—Fond du Lac		
Fond du Lac County Insane Asylum	250	240
St Agnes' Hospital	230	117
Frederic, 511—Polk		
Frederic Hospital	14	9
Green Bay, 34,290—Brown		
Bellin Memorial Hospital	65	52
Brown Co Insane Asylum	140	136
St Mary's Hospital	100	50
St Vincent's Hospital	200	120
Hartford, 4,515—Washington		
Hartford General Hospital	20	4
Hudson, 3,014—St. Croix		
Hudson Sanatorium	60	35
Janesville, 20,785—Rock		
Mercy Hospital	150	75
Jefferson, 2,572—Jefferson		
Forest Lawn Sanatorium (T.B.)	50	50
Kenosha, 50,891—Kenosha		
Kenosha Hospital	75	53
St Catherine's Hosp. & Sanit.	50	35
Willowbrook Sanatorium (T.B)	36	32
La Crosse, 30,421—La Crosse		
Grandview Hospital	86	71
La Crosse Hospital Association	40	30
La Crosse Lutheran Hospital ★	110	72
St. Francis Hospital ★	200	155
Ladysmith, 3,581—Rusk		
St. Mary's Hospital	35	21
Lake Geneva, 2,632—Walworth		
Cottage-by-the-Shore	10	5
Lake Geneva Sanit. (N.& M.)	50	25
Lancaster, 2,485—Grant		
Drs. Doolittle Hospital	15	8
Laona, 700—Forest		
Ovitz Hospital	18	10
Little Chute, 2,017—Outagamie		
Riverview Sanatorium (T.B)	34	32
Madison, 46,385—Dane		
East Washington Hospital	50	15
Madison General Hospital ★	120	96
Madison Methodist Hospital	50	35
Madison Sanit. & Hospital	50	22
Morningside Sanat. (T.B.)	30	19
St Mary's Hospital ★	100	75
State of Wisconsin Gen. Hosp ★	400	225
Manitowoc, 22,132—Manitowoc		
Holy Family Hospital	80	70
Marinette, 13,610—Marinette		
Marinette & Menominee Hosp.	60	32
Marshfield, 7,394—Wood		
St. Joseph's Hospital ★	130	110
Mauston, 1,966—Juneau		
Mauston Hospital	40	20
Medford, 1,881—Taylor		
Medford Clinic Hospital	13	9
Menomonie, 5,104—Dunn		
Dunn County Asylum (N.& M.)	117	111
Menomonie City Hospital	20	12
Mendota, 100—Dane		
Wisconsin Mem. Hosp. (N.& M.)	260	240
Milwaukee, 509,192—Milwaukee		
Columbia Hospital ★	110	73
Evangelical Deaconess Hosp. ★	118	74
Hanover General Hospital	52	39
Johnston Emergency Hospital	35	15
Lincoln Hosp (Rosenheimer's)	14	12
Marquette University Hospital ★	155	102
Milwaukee Children's Hospital †	135	120
Milwaukee Hosp "The Passavant" ★	135	120
Milwaukee Infant's Hospital	50	30
Milwaukee Maternity & General Hospital	60	31
Milwaukee North Side Sanit.	14	2
Misericordia Hospital †	75	50
Mt Sinai Hospital ★	125	120
Ogden Hospital	20	10
The Riverside Sanitarium	50	45
Roosevelt General Hospital	35	20
Sacred Heart Sanitarium	300	150
South Side Hospital	30	15
South View Hospital †	190	60
St Joseph's Hospital ★	140	90
St Mary's Hill Sanit. (N & M.)	112	103
St Mary's Hospital ★	190	143
St Vincent's Infant Asylum & Maternity Hospital	125	125
Mondovi, 1,554—Buffalo		
Mondovi Hospital	12	7
Monroe, 4,788—Green		
Evangelical Deaconess Hospital	35	17
Neenah, 7,171—Winnebago		
Theda Clark Memorial Hospital	52	35
Niagara, 1,946—Marinette		
Niagara Hospital	12	5
Oconomowoc, 3,301—Waukesha		
Oconomowoc Health Resort (N.& M.)	70	60
Oconomowoc Sanit. (N & M)	14	10
Summit Hospital	60	32
Oconto, 4,920—Oconto		
Oconto County & City Hosp	20	12
Onalaska, 1,066—La Crosse		
Oak Forest Sanatorium (T.B)	60	56
Oshkosh, 33,217—Winnebago		
Alexian Brothers Hospital (N & M)	65	55
St Mary's and Mercy Hosp. ★	150	77
Park Falls, 2,676—Price		
Park Falls Hospital	30	15
Pewaukee, 800—Waukesha		
Oak Sanatorium (T.B)	40	39
Platteville, 4,353—Grant		
Buck Hospital	10	5
Wilson Cunningham Hospital	20	15
Plymouth, 3,415—Sheboygan		
Plymouth Hospital	21	15
Portage, 5,582—Columbia		
St. Saviors General Hospital	40	40
Prairie du Chien, 3,537—Crawford		
Old Sanitarium & Hotel	10	8
Prairie du Chien Sanit. & Hosp	70	24
Pureair, (Bayfield P.O.), ——Bayfield		
Pureair Sanatorium (T.B)	70	65
Racine, 67,707—Racine		
St Luke's Hospital	60	45
St Mary's Hospital	80	70
Sunny Rest Sanatorium (T.B)	49	46

	Total Beds	Av. Beds in Use
Rhinelander, 6,654—Oneida		
St. Mary's Hospital	65	30
Rice Lake, 4,457—Barron		
Lakeside Methodist Hospital	33	18
Richland Center, 3,409—Richland		
Richland Hospital	25	12
Sheboygan, 33,535—Sheboygan		
St. Nicholas Hospital	100	81
Shullsburg, 1,158—Lafayette		
Dr. Ennis' Hospital	15	7
South Milwaukee, 7,598—Milwaukee		
South Milwaukee Hospital	16	6
Sparta, 4,466—Monroe		
St. Mary's Hospital	75	40
Stanley, 2,577—Chippewa		
Victory Hospital	12	7
Stevens Point, 12,889—Portage		
River Pines Sanatorium (T.B.)	50	40
St. Michael's Hospital	30	20
Stoughton, 5,101—Dane		
Stoughton Hospital Ass'n	16	8
Sturgeon Bay, 4,553—Door		
Egeland Hospital	20	15
Physicians and Surgeons Hosp.	15	10
Superior, 39,671—Douglas		
St. Francis Hospital	55	25
St. Mary's Hospital ★	110	76
Tomahawk, 2,801—Lincoln		
Sacred Heart Hospital	50	12
Washburn, 3,707—Bayfield		
Washburn Hospital	14	4
Watertown, 9,299—Jefferson		
St. Mary's Hospital	50	30
Waukesha, 14,720—Waukesha		
Waukesha Municipal Hospital	23	18
Waukesha Springs Sanitarium (N.& M.)	50	40
Wausau, 20,101—Marathon		
"Mount View" Marathon Co. Tuberculosis Sanatorium	50	45
St. Mary's Hospital	118	80
Wausau Memorial Hospital	52	40
Wauwatosa, 5,818—Milwaukee		
Blue Mound Sanatorium (T.B.)	100	70
Milwaukee Co. Asylum for Chronic Insane	890	876
Milwaukee County Hospital ★	308	298
Milwaukee Hospital for Insane	888	824
Milwaukee Sanitarium (N.&M.)	98	94
Muirdale Sanatorium (T.B.)	350	326
West Bend, 3,378—Washington		
Dr. Lynch's Sanatorium	11	11
West DePere, —— —Brown		
Hickory Grove Sanatorium (T.B.)	40	39
Whitehall, 851—Trempealeau		
Whitehall Community Hospital	40	25
Whitelaw, —— —Manitowoc		
Maple Crest Sanitarium (T.B.)	39	34
Winnebago, 57—Winnebago		
Sunny View Sanatorium (T.B.)	65	60
Wisconsin Rapids, 6,521—Wood		
Riverview Hospital	30	25
Wittenberg, 854—Shawano		
Wittenberg Hospital Ass'n	15	12
Five General Hospitals of less than 10 beds	33	15
Total for community use, 153	12,492	9,341

In Wisconsin the following eleven counties have no hospitals for community use: Adams, Clark, Florence, Green Lake, Iron, Jackson, Kewaunee, Marquette, Vilas, Washburn, Waushara.

WYOMING

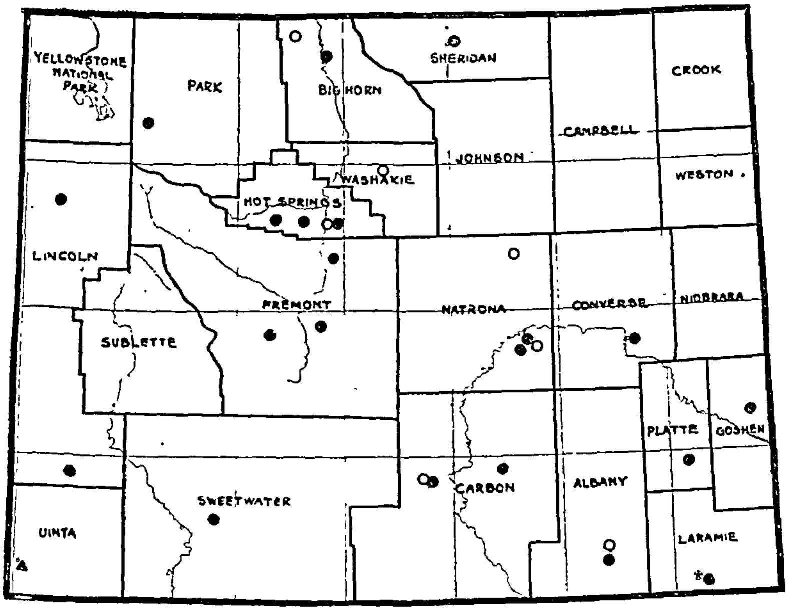
	Total Beds	Av. Beds in Use
Basin, 763—Bighorn		
Basin Hospital Company	15	4
Casper, 11,447—Natrona		
Casper Private Hospital	75	45
Dr. Keith's Private Hospital	10	6
Lincoln Street Hospital	20	12
Natrona Memorial Hospital	90	60
Women's and Children's Hospital	20	15
Cheyenne, 13,829—Laramie		
Laramie Co. Isolation Hospital	12	1
Laramie Co. Memorial Hospital	150	75
Douglas, 2,775—Converse		
Douglas Hospital	17	9
Gebo, 75—Hot Springs		
Gebo Hospital	20	12
Grass Creek, —— —Hot Springs		
Ohio Grass Creek Hospital	10	3
Hanna, 2,000—Carbon		
Hanna Hospital	10	6
Kemmerer, 1,517—Lincoln		
Lincoln Co. Miners Hospital	40	23
Lander, 2,133—Fremont		
Bishop Randall Hospital	20	10
Laramie, 6,301—Albany		
Ivinson Memorial Hospital	44	20
Powell, 2,463—Park		
Whitlock Hospital	16	6
Sheridan, 9,175—Sheridan		
Sheridan Co. Memorial Hospital	53	25
Shoshoni, 561—Fremont		
Dr. Jewell's Hospital	11	3
Thermopolis, 2,095—Hot Springs		
Hopewell Hospital	35	25
McGannon Sanitarium	20	12
Wheatland, 1,356—Platte		
Wheatland General Hospital	60	40
Three General Hospitals of less than 10 beds	19	17
Total for community use, 24	767	429

In Wyoming the following seven counties have no hospitals for community use: Campbell, Crook, Johnson, Niobrara, Sublette, Uinta, Weston.

GRAND TOTALS

	Total Beds	Av. Beds in Use
One hundred and eighty-nine General Hospitals of less than 10 beds	1,330	636
For community use, 4,967	388,890	269,494

WYOMING



● Hospital for community use. ▲ Nervous and Mental Hospital.
✚ Tuberculosis Hospital. ○ ✜ △ Established since 1920.

Total hospitals in Wyoming, 37; for community use, 24; population per hospital bed, 289; percentage of beds occupied, 55; percentage of counties without hospitals, 31.8.

HOSPITALS APPROVED FOR INTERNSHIPS

By the Council on Medical Education and Hospitals of the American Medical Association, 535 North Dearborn Street, Chicago

Revised to April 3, 1926

The following general hospitals containing 149,221 beds are considered in position to furnish acceptable internships for medical graduates. For approved graduate medical schools, also hospitals providing approved residencies in certain specialties, send 10 cents for list.

HOSPITALS, 553; INTERNSHIPS, 4,724

Name of Hospital	Location	Number of Beds						Affiliated—For What Service	Internships					Dispensary Service
		Surgical	Medical	Obstetric	Pediatric	Other	Total		Number	By Examination or Appointment	Length of Service in Months	Begin	Salary per Month	
ALABAMA														
Hillman Hospital	Birmingham	40	34	20	20	46	160	No	12	Ap.	12	July	$25 (a)	Req.
Employees' Hospital of the Tennessee Coal, Iron & R. R. Co.	Fairfield	104	100	20	48	38	310	No	10	Ap.	12	July	$50	Req.
John A. Andrew Memorial Hospital (col)	Tuskegee Institute	22	40	8	5	..	75	No	3	Ap.	12	June & July	$ 6	Req.
ARKANSAS														
St. Vincent's Infirmary	Little Rock	yes	yes	yes	yes	yes	150	No	1	Ap.	12	July	$75	Req.
CALIFORNIA														
General Hospital of Fresno County	Fresno	55	129(3)	25	20	71	300	No	8	Ap.	12	July	$25	Req.
Loma Linda Sanitarium and Hospital[1]	Loma Linda	20	110	20	5	..	155	No	2	Ap.	12	July	$75	Op.
Seaside Hospital	Long Beach	68	30	47	5	28	178	No	5	Ap.	12	July & Oct.	$30	Req.
California Lutheran Hospital[1]	Los Angeles	yes	yes	90	40	270	400	No	12	Ap.	12	July	$25	Req.
Hollywood Hospital	Los Angeles	91	10	32	4	2	139	No	1	Ap	12	July	$50	None
Los Angeles General Hospital[1]	Los Angeles	410	768	75	30	..	1,283	No	55	Ex.	*	(cc)	$20	Op.
Methodist Hospital of Southern California[1]	Los Angeles	75	75	60	75	..	285	No	3	Ap.	12	Aug.	$50	Req.
St. Vincent's Hospital[1]	Los Angeles	35	35	30	..	..	100	No	2	Ap.	12	July	$50	None
White Memorial Hospital[1]	Los Angeles	41	40	19	8	25	133	(4)	12	Ap.	12	July	$10	Req.
Fabiola Hospital[1]	Oakland	64	25	48	25	55	210	No	2	Ap.	12	July	$50	Req.
Providence Hospital	Oakland	yes	yes	yes	yes	yes	250	No	1	....	..	.....	...	.....
The Samuel Merritt Hospital[1]	Oakland	70	21	20	7	..	118	No	2	Ap.	12	Jan.	$25	None
San Bernardino County Hospital	San Bernardino	38	40	10	10	122	220	No	4	Ap.	12	July	$30	Req.
San Diego County General Hospital	San Diego	61	115	16	33	50	275	No	7	Ap.	12	July	(b)	Req.
Franklin Hospital	San Francisco	yes	yes	yes	..	yes	208	No	6	Ap.	12	July	$30	Req.
French Hospital[1]	San Francisco	60	75	16	16	58	225	No	4	Ap.	12	July	$50	Req.
Hahnemann Hospital of the Univ. of Calif.	San Francisco	yes	yes	yes	yes	yes	112	(6)	3	Ap.	12	June	No	Op.
Hospital for Children[2]	San Francisco	75	50	35	100	15	275	(7)	12	Ap.	12	July	$10	Req.
Lane and Stanford University Hospitals[1]	San Francisco	yes	yes	yes	yes	yes	339	(8)	(c)	Ap.	12	(d)	(e)	Req.
Letterman General Hospital	San Francisco	440	501	15	20	..	976	(9)	15	Ap.	12	July	(f)	Req.
Mary's Help Hospital	San Francisco	yes	yes	30	12	122	164	No	2	Ap.	12	July	$50	Req.
Mt. Zion Hospital[1]	San Francisco	53	58	27	15	20	173	No	6	Ap	12	June	$10	Req.
San Francisco Hospital[1]	San Francisco	yes	yes	33	34	1,005	1,072	No	31	Ap.	12	June & July	$10	None
Southern Pacific General Hospital	San Francisco	yes	yes	yes	yes	yes	250	(10)	6	Ap.	12	July	$30	Req.
St. Joseph's Hospital	San Francisco	110	53	23	9	5	200	No	3	Ap.	12	Jan. & June	$50	None
St. Luke's Hospital[1]	San Francisco	yes	yes	18	15	170	203	No	8	Ap.	12	July	$15 (g)	Req.
St. Mary's Hospital[1]	San Francisco	yes	yes	yes	20	190	210	No	4	Ap.	12	June & July	$25	Op.
University of California Hospital[1]	San Francisco	82	54	54	68	25	283	No	14	Ap.	12	June	No	Req.
Alameda County Hospital[1]	San Leandro	52	104	8	..	199	363	(11)	20	Ap.	12	July & Aug.	$25	None
Santa Barbara Cottage Hospital	Santa Barbara	yes	yes	18	18	104	140	No	4	Ap	12	July	$20	Req.
St. Francis Hospital	Santa Barbara	22	18	12	10	6	68§	No	1	Ap.	12	July	$25 (h)	Req.
COLORADO														
St. Francis Hospital	Colorado Springs	60	50	16	12	12	150	No	2	Ap.	12	June	$25	Op.
Children's Hospital[1]	Denver	75	25	..	35	..	135	No	3	Ap.	12	Jan. & July	(1-u)	Req.
Colorado General Hospital[1]	Denver	50	50	30	30	10	170	No	6	Ap.	12	July	$25	Req.
Denver General Hospital[1]	Denver	95	35	35	20	125	310	No	11	Ap.	18	Jan. & July	$30	Req.
Fitzsimons General Hospital	Denver	174	385	4	..	1,294	1,857	(12)	13	Ap.	12	July	(f)	None
Mercy Hospital	Denver	yes	yes	yes	yes	yes	160	No	3	Ap.	12	July	$25	None
St. Anthony's Hospital[1]	Denver	130	130	25	15	..	200	No	3	Ap.	12	July	$10	None
St. Joseph's Hospital	Denver	82	45	30	44	24	225	No	2	Ap.	12	June	$25	None
St. Luke's Hospital[1]	Denver	100	60	20	25	20	225	No	9	Ap.	12	Jan. & July	$15	Req.
CONNECTICUT														
Bridgeport Hospital	Bridgeport	51	51	99	29	59	289	(13)	6	Ap.	12	July	No	Req.
St. Vincent's Hospital	Bridgeport	120	40	35	30	..	225	(13)	4	Ap.	12	July	$20	Op.
Hartford Hospital	Hartford	114	114	62	71	257	618	No	11	Ap.	22	**	No	None
Municipal Hospital	Hartford	30	30	4	10	36	110	No	2	Ap.	12	July	$50	Op.
St. Francis Hospital	Hartford	180	180	110	30	..	500	(14)	10	Ap.	12-24	July	No	None
Middlesex Hospital	Middletown	50	32	50	18	..	150	No	2	Ap.	12	July	$35 (h)	None
New Britain General Hospital	New Britain	100	51	33	14	33	231	No	4	Ap.	12-15	July & Oct.	$30	None
Grace Hospital[1]	New Haven	38	33	12	25	142	250	No	7	Ap.	18	July	$25	None
Hospital of St. Raphael	New Haven	116	33	20	21	20	210	No	4	Ex.	12	July	$25	None
New Haven Hospital[1]	New Haven	141	107	69	93	..	410	No	26	Ap.	12-16	***	No	Req.
St. Mary's Hospital	Waterbury	85	80	45	14	..	224	No	4	Ap.	12	July	$25	None
Waterbury Hospital	Waterbury	60	60	29	29	7	185	No	6	Ap.	12	July	$25	Req.
DELAWARE														
Delaware Hospital	Wilmington	yes	yes	24	35	141	200	No	3	Ap.	12	July	$50	Req.
DISTRICT OF COLUMBIA														
Central Disp. and Emergency Hospital	Washington	100	40	..	8	12	160	No	11	Ap.	12	July	$10	Req.
Columbia Hospital for Women	Washington	yes	yes	63	yes	56	119	No	4	Ap.	12	July	No	Req.
Freedmen's Hospital[1]	Washington	166	55	27	20	..	268	No	20	Ex.	12	July & Oct.	No	Req.
Gallinger Municipal Hospital[1]	Washington	45	84	20	10	206	365	No	8	Ap.	12	July	No	Req.
Garfield Memorial Hospital[1]	Washington	84	70	41	..	133	328	No	8	Ap.	12	July	$10	Req.
Georgetown University Hospital	Washington	81	47	51	16	40	235	No	5	Both	12	July	No	Req.
George Washington University Hospital	Washington	yes	yes	yes	yes	yes	100	No	6	Ap.	12	June	$10	None
Providence Hospital	Washington	127	90	33	50	10	310	No	7	Ap.	12	July	$10	Req.
Sibley Memorial Hospital	Washington	yes	yes	28	46	80	154	No	2	Ap.	12	July	(i)	Req.
St. Elizabeth's Hospital[1]	Washington	50	150	..	..	85	285	(15)	3	Ex.	12	Jan. & July	(j)	Req.
Walter Reed General Hospital	Washington	615	605	20	yes	..	1,240	No	14	Ap.	12	July	(f)	None
Washington Sanitarium and Hospital, Tacoma Park[1]	Washington	50	135	9	6	..	200	No	2	Ap.	12	Aug.	$100	Op.
FLORIDA														
Duval County Hospital	Jacksonville	60	40	16	24	60	200	No	4	Ap.	12	July	$50	Req.
St. Luke's Hospital	Jacksonville	yes	yes	yes	yes	yes	100	No	2	Ap.	12	July	$50	Req.
GEORGIA														
Davis Fischer Sanatorium	Atlanta	yes	yes	yes	yes	yes	160	No	3	Ap.	12	Jan.	$100	None
Georgia Baptist Hospital	Atlanta	yes	yes	yes	yes	yes	115	No	6	Ap.	12	June	$35 (k)	None

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Numerical and other references will be found on pages 1062 and 1063.

HOSPITALS APPROVED FOR INTERNSHIPS—Continued

Name of Hospital	Location	Number of Beds						Affiliated—For What Service	Internships					
		Surgical	Medical	Obstetric	Pediatric	Other	Total		Number	By Examination or Appointment	Length of Service in Months	Begin	Salary per Month	Dispensary Service
GEORGIA—Continued														
Grady Hospital	Atlanta	100	100	100	100	25	425	No	24	Ap.	18-24	July	$15	Req.
Piedmont Hospital	Atlanta	59	59	10	..	..	128	No	4	Ap.	12	July	$50	None
St. Joseph's Infirmary	Atlanta	60	45	20	..	..	125	(16)	3	Ap.	12	June	(l)	Req.
University Hospital[1]	Augusta	118	100	36	17	..	271	No	8	Ap.	12	July	No	Req.
Wesley Memorial Hospital	Emory University	yes	yes	yes	yes	yes	300	No	7	Ex.	12	July	$25	Req.
Macon Hospital	Macon	60	40	20	20	..	140	No	4	Ap.	12	July	$40	Req.
IDAHO														
St Alphonsus Hospital[1]	Boise	yes	yes	yes	yes	yes	120	No	1	....	..	.....	$60	......
ILLINOIS														
Alexian Brothers' Hospital (male patients only)	Chicago	100	90	..	10	80	280	No	6	Ap.	12	July	No	Req.
Augustana Hospital	Chicago	119	60	16	18	33	246	(17)	10	Ap.	24	Jan. & July	No	Req.
Cook County Hospital[1]	Chicago	550	500	150	150	1,150	2,500	No	70	Ex.	18	Jan. & July	No	None
Englewood Hospital	Chicago	yes	yes	yes	yes	yes	150	No	4	Ap.	12	July	No	None
Frances E. Willard Hospital[1]	Chicago	50	30	23	yes	22	125	No	5	Ap.	12	July	No	Req.
German Evangelical Deaconess Hospital	Chicago	40	40	38	15	17	150	No	4	Ap.	12	June	$15	None
Grant Hospital	Chicago	yes	yes	yes	yes	yes	200	No	8	Ap.	12	July	No	Req.
Hospital of St. Anthony de Padua	Chicago	122	20	35	12	1	190	(18)	6	Ap.	18	†	No	None
Illinois Central Hospital	Chicago	80	60	25	yes	35	200	No	7	Ap.	18	Jan. & July	$25	Req.
John B. Murphy Hospital	Chicago	40	23	37	..	..	100	No	4	Ap.	12	July	(m)	Req.
Lutheran Deaconess Home and Hospital	Chicago	80	50	40	20	10	200	No	7	Ap.	12	††	No	Req.
Lutheran Memorial Hospital	Chicago	80	40	35	18	19	192	No	6	Ap.	12	Jan. & July	No	None
Mercy Hospital	Chicago	200	100	50	30	20	400	(19)	19	Ap.	18	June & Dec.	No	Op.
Michael Reese Hospital[1]	Chicago	yes	yes	yes	yes	yes	474	(20)	31	Ap.	24	Jan. & July	No	Op.
Mount Sinai Hospital[1]	Chicago	30	35	20	10	5	100	No	4	Ap.	12	July	$25	Req.
Norwegian-American Hospital	Chicago	75	40	40	10	..	165	No	7	Ap.	12	†	$50	Req.
Presbyterian Hospital[1]	Chicago	200	175	50	50	..	475	No	25	Ap.	12	Jan. & July	No	Req.
Provident Hospital (col.)	Chicago	yes	yes	5	8	..	65	No	4	Ap.	12	†††	No	Req.
Ravenswood Hospital[1]	Chicago	yes	yes	yes	yes	yes	177	No	5	Ap.	12	†	$25	None
Research and Educational Hospital of University of Illinois[1]	Chicago	40	50	25	20	65	200	No	10	Ex.	12	Jan. & July	No	Op.
South Shore Hospital	Chicago	60	30	25	10	.	125	No	4	Ap.	12	July	No	Op.
St. Anne's Hospital[1]	Chicago	29	12	55	10	19	125	No	4	Ap.	12	Jan. & July	No	None
St. Bernard's Hospital	Chicago	90	30	50	15	15	200	No	8	Ap.	12	July	No	Req.
St. Elizabeth Hospital	Chicago	100	50	30	15	30	225	No	6	Ap.	12	July	No	Req.
St. Joseph's Hospital	Chicago	50	40	20	30	35	175	No	8	Ap.	12	Apr. & July	No	Req.
St. Luke's Hospital	Chicago	yes	yes	yes	yes	yes	770	No	40	Ex.	24	June	No	Req.
St. Mary of Nazareth Hospital	Chicago	yes	yes	36	16	198	250	No	8	Ap.	12	July	No	Req.
Swedish Covenant Hospital	Chicago	50	30	35	35	..	150	No	4	Ap.	12	Jan. & July	$30	None
U. S. Marine Hospital No. 5	Chicago	38	63	..	..	26	127	(21)	2	Ap.	12	July	$75	Req.
University Hospital	Chicago	yes	yes	yes	yes	yes	101	No	4	Ap.	12	July	No	Req.
Washington Boulevard Hospital	Chicago	45	45	10	..	..	100	No	6	Ap.	18	Jan. & July	No	Req.
Washington Park Hospital	Chicago	50	25	50	10	15	150	No	6	Ap.	12	July	No	None
Wesley Memorial Hospital	Chicago	100	75	25	25	50	275	No	17	Ap.	24	†	No	Req.
West Side Hospital	Chicago	105	38	38	4	..	185	No	8	Ap.	18	††††	No	None
Women and Children's Hospital[1]	Chicago	yes	yes	26	14	60	100	No	4	Ap.	12	June & July	No	Req.
Lake View Hospital[1]	Danville	65	21	13	13	13	125	No	4	Ap.	12	.....	$25-$50	Op.
Decatur and Macon County Hospital	Decatur	49	49	22	8	22	150	(22)	4	Ap.	12	July	$25	Req.
Evanston Hospital[1]	Evanston	74	28	58	42	45	247	No	9	Ap.	18	Jan. & July	No	Req.
St. Francis Hospital[1]	Evanston	100	40	40	20	..	200	No	6	Ap.	12	#	No	Op.
Oak Park Hospital	Oak Park	44	35	31	25	40	175	No	5	Ap.	12	July	$10	None
West Suburban Hospital	Oak Park	100	50	65	35	..	250	No	10	Ap.	12	##	No	None
St. Francis Hospital	Peoria	75	75	30	40	30	250	No	4	Ap.	12	July	$25	Req.
INDIANA														
Ft. Wayne Lutheran Hospital	Ft. Wayne	yes	yes	18	8	99	125	No	2	Ap.	12	July	$25	Req.
St. Joseph's Hospital	Ft. Wayne	100	70	30	20	..	220	No	5	Ap.	12	July	$25 (n)	Req.
St. Mary's Mercy Hospital[2]	Gary	yes	yes	yes	yes	yes	150	No	4	Ap.	12	July	$25 (a)	None
St. Margaret's Hospital[1]	Hammond	100	50	25	15	5	195	No	5	Ap.	12	###	$45	None
Indianapolis City Hospital	Indianapolis	120	120	30	81	225	576	No	25	Ex.	20	¶	$12.50	Req.
Methodist Episcopal Hospital	Indianapolis	yes	yes	yes	yes	yes	375	No	16	Ap.	12	July	$25	None
Robert W. Long Hospital[1]	Indianapolis	yes	yes	yes	yes	yes	116	(23)	5	Ap.	12	¶¶	$12.50	Req.
St. Vincent's Hospital	Indianapolis	yes	yes	yes	yes	yes	250	No	6	Ap.	12	July	$25	None
St. Elizabeth's Hospital	Lafayette	95	90	20	6	39	250	No	4	Ap	12	July	$50	None
Epworth Hospital and Training School	South Bend	47	25	37	25	16	150	No	3	Ap.	12	July	$50	None
St. Anthony's Hospital[1]	Terre Haute	yes	yes	yes	yes	yes	210	No	2	Ap.	12	July	$50	Op.
IOWA														
St. Luke's Methodist Hospital[1]	Cedar Rapids	98	35	20	10	12	175	No	2	Ap.	12	July	No	None
Mercy Hospital	Davenport	60	40	16	7	2	125	No	2	Ap.	12	July	(o)	Req.
Iowa Lutheran Hospital	Des Moines	50	50	25	20	5	150	No	4	Ap.	12	July	$25	Req.
Iowa Methodist Hospital	Des Moines	yes	yes	yes	yes	yes	282	No	8	Ap.	12	July	$25	None
Mercy Hospital	Des Moines	yes	yes	20	22	120	162	No	2	Ap.	12	July	$60	None
State University of Iowa Hospital[1]	Iowa City	124	112	49	62	397	744	No	27	Ap.	12	July	(p)	Req.
St. Joseph Mercy Hospital[1]	Sioux City	132	30	48	20	20	250	No	3	Ap.	12	June	$25	None
KANSAS														
Bell Memorial Hospital	Kansas City	35	35	12	15	23	120	No	5	Ap.	12	July	$25	Req.
St. Margaret's Hospital	Kansas City	yes	yes	yes	yes	yes	400	No	7	Ap.	12	July	$25	Req.
St. Francis Hospital[1]	Wichita	75	75	30	25	45	250	No	4	Ap.	12	July	$50	Req.
Wesley Hospital	Wichita	72	22	29	20	2	145	No	3	Ap.	12	July	$62.50	None
Wichita Hospital[1]	Wichita	yes	yes	yes	yes	yes	115	No	2	Ap.	12	July	$50	None
KENTUCKY														
St. Elizabeth's Hospital	Covington	60	135	30	..	75	300	No	5	Ap.	12	July	$50	None
Good Samaritan Hospital[1]	Lexington	yes	yes	20	21	78	119	No	2	Ap.	12	June	$50	None
Louisville City Hospital	Louisville	120	120	40	56	64	400	No	(q)	Ap.	12	July	(r)	Req.
St. Anthony Hospital	Louisville	75	70	18	12	..	175	No	3	Ap.	12	July	$50	None
Sts. Mary and Elizabeth Hospital	Louisville	69	12	14	12	18	145	No	2	Ap.	12	July	$35 (a)	None
LOUISIANA														
Charity Hospital[1]	New Orleans	332	300	65	89	514	1,300	No	50	Ap.	*	July	No	Req.
Hotel Dieu[1]	New Orleans	192	20	36	9	28	285	No	8	Ap.	12	July	$50	Req.
Touro Infirmary	New Orleans	yes	yes	yes	yes	yes	400	No	17	Ap.	12	July	$20	Req.
T. E. Schumpert Memorial Sanitarium	Shreveport	78	44	10	4	64	200	No	2	Ap.	12	July	$50	Op.
Shreveport Charity Hospital	Shreveport	112	90	20	20	8	250	No	10	Ap	12	July	$25	Req.
MAINE														
Eastern Maine General Hospital	Bangor	48	20	9	10	43	130	No	3	Ap.	12	July	(s)	None
Central Maine General Hospital[1]	Lewiston	45	45	16	..	19	125	No	2	Ap.	12	July	$50	None
Maine General Hospital[2]	Portland	yes	yes	21	24	155	200	No	4	Ap.	12	July	No	Req.
MARYLAND														
Baltimore City Hospitals	Baltimore	138	360	..	..	475	973	No	10	Ex.	12	July	$25	Op.
Church Home and Infirmary	Baltimore	yes	yes	yes	yes	yes	176	No	6	Ap.	12	July	No	None

Numerical and other references will be found on pages 1062 and 1063.

Name of Hospital	Location	Number of Beds						Affiliated—For What Service	Internships					
		Surgical	Medical	Obstetric	Pediatric	Other	Total		Number	By Examination or Appointment	Length of Service in Months	Begin	Salary per Month	Dispensary Service
MARYLAND—Continued														
Franklin Square Hospital	Baltimore	yes	yes	yes	yes	yes	110	No	4	Ap.	12	July	(t)	Req.
Hebrew Hospital[1]	Baltimore	51	51	29	19	40	190	No	16	Ap.	12	July	No	Req.
Johns Hopkins Hospital[1]	Baltimore	65	78	77	100	403	723	No	37	Ap.	12	Sept.	No	Req.
Maryland General Hospital	Baltimore	110	60	28	22	..	220	No	10	Ap.	12	July	$10 (u)	Req.
Mercy Hospital	Baltimore	128	80	18	31	18	275	No	17	Ap.	12	July	No	Req.
St. Agnes Hospital	Baltimore	143	24	20	18	..	205	No	8	Ap.	12	July	No	Req.
St. Joseph Hospital	Baltimore	190	60	28	yes	11	289	No	10	Ap.	12	July	No	Req.
Union Memorial Hospital	Baltimore	yes	yes	..	yes	yes	152	No	8	Ap.	12	July	No	None
University of Maryland Hospital[1]	Baltimore	121	70	32	19	8	250	No	13	Ap.	12	July	No	Op.
MASSACHUSETTS														
Boston City Hospital	Boston	249	228	105	131	538	1,251	No	66	Ex.	++	¶¶¶	No	Req.
Carney Hospital	Boston	76	70	42	12	20	220	No	16	Ap.	16	+++	No	Req.
Massachusetts General Hospital[2,3]	Boston	203	105	..	40	60	408	No	33	Ex.	21	†	No	Req.
Massachusetts Homeopathic Hospital[1]	Boston	162	60	91	46	258	617	No	(v)	Ap.	12	July	No	Req.
New England Hospital for Women and Children, Roxbury[2]	Boston	30	15	75	30	..	150	No	6	Ap.	12	July	No	Req.
Peter Bent Brigham Hospital	Boston	88	88	..	..	47	223	No	19	Ex.	12-16	(aa)	No	Req.
St. Elizabeth's Hospital	Boston	83	48	39	20	10	200	No	6	Ex.	18	(bb)	No	Req.
Brockton Hospital[1]	Brockton	yes	yes	yes	yes	yes	131	No	2	Ap.	12	(cc)	$25	Req.
Cambridge Hospital	Cambridge	75	25	25	..	..	125	No	2	Ap.	12	Apr. & Oct.	No	Req.
Fall River General Hospital	Fall River	35	48	44	21	..	148	No	3	Ap.	12	(dd)	$41	Req.
Union Hospital	Fall River	yes	yes	30	30	114	174	No	4	Ap.	12	Jan. & July	(w)	Req.
Burbank Hospital	Fitchburg	yes	yes	yes	yes	yes	125	No	1	Ap.	12	July	$25	Req.
Lawrence General Hospital	Lawrence	30	15	40	12	53	150	No	2	Ap.	12	June	$10	Req.
Lowell Corporation Hospital	Lowell	yes	yes	14	10	76	100	No	1	Ap.	12	June	$25	Req.
Lowell General Hospital[1]	Lowell	66	22	20	12	..	120	No	1	Ex.	12	July	$25	None
St. John's Hospital	Lowell	yes	yes	yes	yes	yes	148	No	3	Ap.	12	June	No	Op.
Lynn Hospital	Lynn	48	30	20	18	20	136	No	3	Ex.	12	(dd)	(x)	Op.
St. Luke's Hospital	New Bedford	52	20	90	36	96	294	No	4	Ap.	12	July	No	Req.
Newton Hospital	Newton	yes	yes	yes	yes	yes	177	No	2	Ex.	12	July	No	Req.
House of Mercy Hospital	Pittsfield	25	25	32	25	82	189	No	2	Ap.	12	July	$50	Req.
Salem Hospital	Salem	yes	yes	yes	yes	yes	113	No	2	Ap.	12	June & July	$25	Req.
Mercy Hospital	Springfield	75	28	46	19	46	214	No	2	Ap.	12	July	$25	None
Springfield Hospital	Springfield	yes	yes	yes	yes	yes	190	No	3	Ap.	12	July	No	Req.
Waltham Hospital	Waltham	45	20	21	..	40	126	No	3	Ap.	12	Apr.	No	Req.
City Hospital	Worcester	140	100	56	30	74	400	No	14	Ap.	21	(ee)	No	None
Memorial Hospital[2]	Worcester	63	20	60	24	37	204	No	8	Ap.	12	July & Sept.	No	Req.
St. Vincent's Hospital	Worcester	143	36	25	36	10	250	No	2	Ap.	12	July	$25	None
MICHIGAN														
University of Michigan Hospital[1]	Ann Arbor	yes	yes	yes	yes	yes	1,100	No	75	Ap.	12	July	No	Req.
Battle Creek Sanitarium[1]	Battle Creek	66	800	35	15	84	1,000	No	10	Ap.	12	July	No	Req.
Grace Hospital[1]	Detroit	100	80	36	64	82	362	(24)	21	Ap.	12	#	No	Req.
Harper Hospital	Detroit	290	80	50	30	..	450	(26)	50	Ap.	12-24	July	(y)	Req.
Henry Ford Hospital	Detroit	225	100	24	24	175	548	No	24	Both	18	Jan. & July	(z)	None
Providence Hospital[1]	Detroit	75	50	85	100	40	350	(27)	15	Ap.	12	July	$25	Req.
Receiving Hospital	Detroit	109	154	..	10	92	365	(28)	21	Ap.	12	July	$26.25	Req.
St. Mary's Hospital	Detroit	150	110	30	18	..	308	(26)	12	Ap.	12	July	$25	Req.
Hurley Hospital[1]	Flint	50	50	25	25	25	175	No	5	Ap.	12	July	$25	Op.
Blodgett Memorial Hospital	Grand Rapids	yes	yes	yes	yes	yes	152	No	5	Ap.	12	Jan. & July	No	Req.
Butterworth Hospital	Grand Rapids	102	70	52	30	16	270	(29)	9	Ap.	12	July	$10	Req.
St. Mary's Hospital	Grand Rapids	35	15	15	30	20	115	No	6	Both	12	July	$25	Req.
Highland Park General Hospital	Highland Park	yes	yes	yes	yes	yes	135	No	6	Ap.	12	July	$25	Req.
W. A. Foote Memorial Hospital	Jackson	50	30	23	12	10	125	No	2	Ap.	12	July	$65	Op.
Hackley Hospital[1]	Muskegon	28	28	14	15	30	115	No	1	Ap.	12	July	$25	None
Mercy Hospital	Muskegon	35	25	20	10	10	100	No	1	Ap.	12	July	$50	Op.
Saginaw General Hospital	Saginaw	60	45	35	..	..	140	No	2	Ap.	12	July	$25	Op.
MINNESOTA														
St. Luke's Hospital	Duluth	yes	yes	yes	yes	yes	270	(30)	4	Ap.	12	March	$25	None
St. Mary's Hospital	Duluth	95	95	30	30	30	280	No	6	Ap.	12	Jan. & June	$25	None
Abbott Hospital[1]	Minneapolis	yes	yes	yes	yes	yes	100	No	2	Ap.	12	March	$25	Req.
Fairview Hospital[1]	Minneapolis	100	24	27	8	65	224	(31)	4	Ap.	12	June	$25	Req.
Minneapolis General Hospital[1]	Minneapolis	136	123	40	62	361	722	No	24	Ex.	12	Jan. & July	No	Req.
New Asbury Hospital	Minneapolis	55	39	36	8	30	168	No	3	Ap.	12	Jan. & July	No	None
Northwestern Hospital[1]	Minneapolis	55	47	18	5	..	125	No	3	Ap.	12	March	$25	None
St. Barnabas Hospital[1]	Minneapolis	75	25	46	15	14	175	No	2	Ap.	12	June	$25	None
St. Mary's Hospital	Minneapolis	125	65	35	25	28	278	No	6	Ap.	12	July	$25	None
Swedish Hospital[1]	Minneapolis	100	75	55	..	..	230	No	6	Ap.	12	July & Dec.	$50	None
University Hospital[1]	Minneapolis	105	74	17	35	53	284	(32)	12	Ap.	12	Jan. & July	No	Req.
Ancker Hospital	St. Paul	200	150	55	50	395	850	No	24	Ap.	12	July	No	Req.
Bethesda Hospital	St. Paul	yes	yes	yes	yes	yes	120	No	1	Ap.	12	June	$25	None
Charles T. Miller Hospital, Inc.	St. Paul	yes	yes	yes	yes	yes	216	(33)	7	Ap.	12	July	No	Req.
Mounds Park Sanitarium	St. Paul	44	45	10	6	20	125	No	1	Ap.	12	Jan.	$25	Req.
Northern Pacific Beneficial Association Hospital	St. Paul	74	74	12	..	..	160	No	3	Ap.	12	Jan. & July	$25	Req.
St. Joseph's Hospital	St. Paul	128	38	24	12	48	250	No	4	Ap.	12	July	$25	None
St. Luke's Hospital	St. Paul	63	48	19	26	19	175	No	4	Ap.	12	July	$25	Op.
MISSISSIPPI														
Mississippi State Charity Hospital[1]	Jackson	yes	yes	yes	yes	yes	100	No	2	Ap.	12-24	(ff)	$50-$100	Op.
Natchez Hospital	Natchez	45	60	10	10	..	125	No	4	Ap.	12	June	$25	Req.
Mississippi State Charity Hospital	Vicksburg	30	30	5	5	30	100	No	4	Ap.	12	June	No	None
MISSOURI														
Kansas City General Hospital (white and colored)	Kansas City	75	100	35	45	95	350	No	18	Ap.	12	July	$25	Op.
Research Hospital[1]	Kansas City	yes	yes	yes	yes	yes	275	No	2	Ap.	12	July	$50	None
St. Joseph Hospital	Kansas City	140	45	15	25	..	225	No	4	Ap.	12	July	$50	None
St. Luke's Hospital	Kansas City	46	46	27	21	..	140	No	4	Ap.	12	July	$50	Req.
St. Mary's Hospital	Kansas City	yes	yes	yes	yes	yes	175	No	5	Ap.	12	July	$50	Req.
Alexian Brothers Hospital	St. Louis	57	68	..	..	100	225	(34)	4	Ap.	12	July	$25	None
Barnes Hospital	St. Louis	125	98	47	40	..	310	No	19	Ap.	12-18	Jan. & July	No	Req.
Jewish Hospital	St. Louis	yes	yes	yes	yes	yes	110	No	6	Ap.	12-36	July	(1-a)	None
Missouri Baptist Sanitarium	St. Louis	164	100	38	20	38	360	No	8	Ap.	12	July	$25	None
St. John's Hospital	St. Louis	125	100	25	30	..	280	No	10	Ap.	12-24	July	$20-$50	None
St. Louis City Hospital No. 1 (white)	St. Louis	260	210	50	55	125	700	(35)	(1-b)	Both	12	July	(1-c)	None
S. Louis City Hospital No. 2 (col.)	St. Louis	52	75	20	46	82	275	No	14	Ap.	12	July	$25	None
St. Luke's Hospital[1]	St. Louis	yes	yes	yes	yes	yes	200	No	8	Ap.	12	July	$25	Req.
S. Mary's Infirmary	St. Louis	yes	yes	yes	yes	yes	125	No	8	Ap.	12	July	$16.70	Req.
MONTANA														
Murray Hospital	Butte	50	42	18	..	..	110	No	3	Ap.	12	July	$50	Req.
St. James Hospital	Butte	71	45	12	13	24	165	No	4	Ap.	12	July	$50	Op.

Numerical and other references will be found on pages 1062 and 1063.

Name of Hospital	Location	Number of Beds						Affiliated—For What Service	Internships					
		Surgical	Medical	Obstetric	Pediatric	Other	Total		Number	By Examination or Appointment	Length of Service in Months	Begin	Salary per Month	Dispensary Service
NEBRASKA														
St. Elizabeth's Hospital	Lincoln	yes	yes	yes	yes	yes	175	No	2	Ap.	12	July	$25	Op.
Creighton Memorial, St. Joseph's Hospital [1]	Omaha	130	115	18	15	142	420	No	10	Ex.	12	July	$25	Req.
Nebraska Methodist Episcopal Hospital	Omaha	70	65	60	30	..	225	No	8	Ap.	12	July	No	Req.
University Hospital	Omaha	42	42	21	25	..	130	No	9	Ap.	18	**	(1-d)	Req.
NEW JERSEY														
Atlantic City Hospital	Atlantic City	64	64	34	28	35	225	(36)	8	Ap.	12	July	$25	Req.
Bayonne Hospital and Dispensary	Bayonne	40	34	11	16	16	117	No	3	Ap.	12	+++	$25	Req.
Cooper Hospital	Camden	yes	yes	yes	yes	yes	210	No	7	Ap.	12	July	$10(h)	Op.
West Jersey Homeopathic Hospital	Camden	35	18	30	20	47	150	No	4	Ap.	12	June	$50	None
Alexian Brothers' Hospital	Elizabeth	50	50	..	..	..	100	No	1	Ap.	12	June	$50	Req
Elizabeth General Hospital and Dispensary	Elizabeth	60	36	30	12	62	200	No	5	Ap.	12	July	$25	Req.
St. Elizabeth's Hospital	Elizabeth	75	40	25	20	..	160	No	3	Ap.	12	July	$25	Req.
Englewood Hospital [1]	Englewood	50	25	50	35	10	170	No	6	Ap.	12-24	June	$25 (1-e)	Req.
Hackensack Hospital	Hackensack	90	75	30	30	..	225	No	4	Ap.	12	July	$25	Req.
St. Mary's Hospital	Hoboken	120	110	5	40	125	400	(37)	7	Ap.	12	July & Sept.	$25	Req.
Christ Hospital	Jersey City	78	20	13	24	..	135	No	5	Ap.	15	†	(1-f)	Op.
Jersey City Hospital	Jersey City	125	175	62	83	155	600	No	20	Ex.	18	(gg)	$25	Req.
St. Francis Hospital	Jersey City	102	80	..	38	..	220	No	6	Ap.	12	July & Nov.	$25	Req.
Monmouth Memorial Hospital	Long Branch	40	30	20	24	86	200	No	2	Ap.	12	July	$25	Req.
Mountainside Hospital	Montclair	95	55	41	25	34	250	No	5	Ap.	12	June & July	$25	Req.
Morristown Memorial Hospital	Morristown	20	20	18	12	80	150	No	3	Ap.	12	(hh)	$50	Req.
Hospital of St. Barnabas	Newark	25	25	35	12	38	135	No	2	Ap.	12	July	$50	Req.
Newark Beth Israel Hospital	Newark	40	40	9	13	18	120	No	6	Ap.	12	June & July	$8.33	Req.
Newark City Hospital [1]	Newark	200	140	50	60	250	700	No	21	Ex.	21	†	None	Req.
Newark Memorial Hospital [1]	Newark	yes	yes	yes	yes	..	150	No	2	Ap.	12	July	$25	Op.
St. James' Hospital [1]	Newark	50	27	20	18	..	115	No	4	Both	12	July	$25	Op.
St. Michael's Hospital	Newark	107	183	..	..	10	300	(38)	6	Ex.	14	(ii)	$20	Req.
Orange Memorial Hospital	Orange	32	32	32	20	134	250	No	4	Ap.	12	July	$25	Req.
St. Mary's Hospital [1]	Orange	50	35	35	..	30	150	No	2	Ap.	12	Jan.	$25	Req.
Passaic General Hospital [1]	Passaic	75	25	30	25	45	200	No	3	Ap.	12	July	$50	Op.
St. Mary's Hospital	Passaic	28	28	25	..	34	115	No	2	Ap.	12	July	$50	None
Barnert Memorial Hospital [1]	Paterson	35	17	12	10	26	100	No	3	Ap.	12	(jj)	(b)	Req.
Paterson General Hospital	Paterson	48	28	8	39	44	167	No	4	Ap.	12	July	$25 (a)	Op.
St. Joseph Hospital [1]	Paterson	50	32	60	31	95	268	No	6	Ap.	12	July	$25	Req.
Muhlenberg Hospital [1]	Plainfield	62	36	20	10	7	135	No	4	Ap.	12	July	$25	Req.
Mercer Hospital [1]	Trenton	54	40	17	16	48	175	No	3	Ap.	12	July	$33.33	Op.
St. Francis Hospital	Trenton	109	52	48	16	..	225	(39)	5	Ex.	12	July	$50	Req.
William McKinley Memorial Hospital	Trenton	yes	yes	yes	yes	yes	136	No	3	Ap.	12	July	$50	Req.
North Hudson Hospital [1]	Weehawken	yes	yes	yes	yes	yes	92§	No	3	Ex.	12	†††	$25	Op.
NEW YORK														
Albany Hospital [1]	Albany	yes	yes	yes	yes	yes	433	No	11	Ap.	12	July & Oct.	No	Req.
St. Peter's Hospital [1]	Albany	73	45	2	8	7	135	(40)	4	Ex.	12	July	$50	Req.
Auburn City Hospital [1]	Auburn	yes	yes	yes	yes	yes	87§	No	3	Ap.	12	July	$25	None
Binghamton City Hospital	Binghamton	24	24	40	14	72	174	No	4	Ap.	12	July	$50	None
Beth Moses Hospital	Brooklyn	92	42	60	18	..	212	No	9	Ex.	18	July	No	Op.
Brooklyn Hospital	Brooklyn	94	52	44	30	74	294	No	14	Ex.	24	July	No	Op.
Brownsville and East New York Hospital	Brooklyn	41	32	26	18	28	145	No	8	Ap.	12	June	No	None
Cumberland Hospital	Brooklyn	94	76	53	67	110	400	No	20	Ap.	24	July	No	Req
Greenpoint Hospital [1]	Brooklyn	90	60	55	30	29	264	No	12	Ap.	24	July	No	Op.
Hospital of the Holy Family	Brooklyn	52	24	13	5	16	110	No	6	Ap.	16	May & June	No	Req.
Jewish Hospital [1]	Brooklyn	90	75	65	35	100	365	No	11	Ap.	24	Jan. & July	No	None
Kings County Hospital	Brooklyn	509	993	90	52	165	1,809	No	26	Ap.	26	**	No	Req.
Long Island College Hospital	Brooklyn	78	63	30	40	259	470	No	30	Ap.	12	July	(1-g)	Req.
Methodist Episcopal Hospital	Brooklyn	100	50	100	50	25	325	No	10	Ap.	24	July	No	None
Norwegian Lutheran Deaconess Home and Hospital [1]	Brooklyn	40	22	29	20	98	209	No	7	Ap.	12	June & Sept.	(1-h)	None
St. Catherine's Hospital	Brooklyn	yes	yes	yes	yes	yes	296	No	12	Ap.	24	July	No	Op.
St. John's Hospital	Brooklyn	yes	yes	yes	yes	yes	100§	No	4	Ap.	12	(kk)	$25	None
St. Mary's Hospital	Brooklyn	113	91	34	30	42	310	No	10	Ap.	24	July	No	Req.
St. Peter's Hospital	Brooklyn	175	75	..	..	..	250	No	5	Ap.	12	July	No	None
Wyckoff Heights Hospital	Brooklyn	85	35	20	20	15	175	No	8	Ex.	24	July	No	Req.
Buffalo City Hospital [1]	Buffalo	94	149	24	166	430	863	No	30	Ap.	12	July	$40	Req.
Buffalo General Hospital	Buffalo	135	116	28	24	82	385	No	12	Ap.	12	July	No	Req.
Buffalo Hospital of the Sisters of Charity	Buffalo	113	63	..	20	19	215	(41)	10	Ex.	12	July	$25	None
Deaconess Hospital [1]	Buffalo	yes	yes	yes	yes	yes	204	No	5	Ap.	12	July	$10 (1-i)	None
Emergency Hospital of Sisters of Charity	Buffalo	60	40	..	..	..	100	(42)	4	Both	12	July	$25	Req.
Erie County Hospital [1]	Buffalo	81	90	12	..	131	314	No	2	Ap.	12	July	$50	None
Millard Fillmore Hospital	Buffalo	yes	yes	yes	yes	yes	160	No	3	Ap.	12	July	$50	None
Clifton Springs Sanitarium and Clinic [1]	Clifton Springs	38	329	8	..	..	375	No	3	Ap.	12	July	$25	Req.
Arnot-Ogden Memorial Hospital	Elmira	25	20	12	20	33	110	No	1	Ap.	12	Jan. & July	No	None
Flushing Hospital and Dispensary	Flushing	50	21	31	49	..	151	No	4	Ap.	12	Jan. & July	$50	Req.
St. John's Long Island City Hospital	Long Island City	95	42	30	30	30	227	No	8	Ap.	24	†	No	Op.
Nassau Hospital [1]	Mineola	yes	yes	yes	yes	yes	200	No	3	Ap.	12	July	$50	None
Mount Vernon Hospital	Mount Vernon	42	16	40	12	40	150	No	3	Ex.	18	Jan. & July	(1-j)	Req.
New Rochelle Hospital [1]	New Rochelle	yes	yes	yes	yes	yes	152	No	3	Ex.	12	(aa)	(1-k)	Op.
Bellevue Hospital [1]	New York	414	393	108	117	602	1,634	No	98	Both	12-24	Jan. & July	No	None
Beth Israel Hospital	New York	56	54	6	21	..	137	No	14	Ex.	12-36	Jan. & July	No	None
City Hospital	New York	148	558	76	96	182	1,060	No	32	Ex.	24	Jan. & July	No	Op.
Fifth Avenue Hospital	New York	104	52	35	90	40	321	No	10	Ap.	12	Jan. & July	No	Req.
Fordham Hospital	New York	140	118	53	57	8	376	No	14	Ex.	16	(aa)	No	None
French Hospital	New York	64	42	..	..	..	106	No	6	Ap.	12-24	Jan. & July	No	None
Gouverneur Hospital [1]	New York	75	47	41	22	25	210	No	14	Ex.	12-24	Jan. & July	No	None
Harlem Hospital [1]	New York	73	95	124	34	20	346	No	20	Ex.	24	Jan. & July	No	Op.
Italian Hospital of the Borough of Manhattan	New York	52	10	14	6	15	97§	No	5	Ex.	15	†	(1-m)	Req.
Knickerbocker Hospital	New York	yes	yes	yes	yes	yes	108§	No	6	Ap.	24	(mm)	No	Op.
Lebanon Hospital	New York	51	45	18	20	58	192	No	11	Ex.	20-32	(mm)	No	Op.
Lenox Hill Hospital	New York	80	50	29	70	116	345	No	8	Ex.	24	Feb. & Aug.	No	None
Lincoln Hospital and Home	New York	125	75	46	13	91	350	No	16	Ap.	24	†	$15-$25	Req.
Metropolitan Hospital [1]	New York	264	401	74	308	286	1,333	No	40	Ap.	12	Jan. & July	No	Req.
Mt. Sinai Hospital [1]	New York	yes	yes	yes	yes	yes	650	No	32	Ex.	24	(aa)	No	None
New York Homeopathic Medical College and Flower Hospital	New York	127	50	32	20	..	229	No	9	Ap.	12	July	$25	Req.
New York Hospital [1]	New York	153	136	..	..	17	306	No	16	Both	24	Jan. & July	No	Op.
New York Infirmary for Women and Children [2]	New York	20	11	37	44	18	130	No	5	Ap.	12	July & Sept.	$10	Req.
New York Polyclinic Medical School and Hospital	New York	65	35	33	25	137	295	(43)	14	Ap.	24	Jan. & June	No	Op.

Numerical and other references will be found on pages 1062 and 1063.

Name of Hospital	Location	Number of Beds						Affiliated—For What Service	Internships					
		Surgical	Medical	Obstetric	Pediatric	Other	Total		Number	By Examination or Appointment	Length of Service in Months	Begin	Salary per Month	Dispensary Service
NEW YORK—Continued														
New York Post Graduate Medical School and Hospital	New York	167	61	..	58	131	417	No	34	Ex.	12-27	†	No	Op.
Presbyterian Hospital[1]	New York	98	90	..	28	39	255	No	22	Ex.	20	(nn)	No	Req.
Roosevelt Hospital	New York	yes	yes	yes	yes	yes	377	No	19	Ex.	24	Jan. & July	No	Op.
St. Francis Hospital	New York	250	200	..	..	..	450	No	8	Ap.	24	Jan. & July	No	None
St. Luke's Hospital	New York	233	152	..	32	..	417	No	16	Ex.	24	Jan. & July	No	Op.
St. Mark's Hospital	New York	yes	yes	yes	yes	yes	160	No	8	Ex.	24	(ff)	$15	None
St. Vincent's Hospital	New York	222	130	..	..	..	352	No	18	Ex.	18-24	Jan. & July	No	None
U. S. Marine Hosp. No. 43 (Ellis Island)	New York	36	325	8	90	203	662	No	5	Ap.	12	July	$75	None
United Hospital[1]	Port Chester	yes	yes	yes	yes	yes	100	No	3	Ap.	12	July	$25-$50	Op.
Vassar Brothers' Hospital	Poughkeepsie	yes	yes	yes	yes	yes	217	No	4	Ap.	24	July	(1-n)	Op.
Highland Hospital	Rochester	yes	yes	yes	yes	yes	169	No	4	Ex.	12	July	$25	Req.
Rochester General Hospital	Rochester	101	39	45	11	117	313	No	12	Ap.	12-36	July	(1-o)	Req.
Rochester Homeopathic Hospital[1]	Rochester	81	47	36	27	..	191	No	6	Ap.	12	July	$25	Req.
St. Mary's Hospital	Rochester	75	75	25	20	5	200	No	6	Ap.	12	July	$25	Req.
Strong Memorial Hospital[1]	Rochester	62	66	30	45	42	245	(76)	28	Ex.	12	July	No	Req.
Ellis Hospital	Schenectady	165	30	30	30	20	275	No	5	Ap.	12	June	$50	None
Staten Island Hospital (Tompkinsville)	Staten Island	44	39	14	33	45	175	No	5	Ap.	15	†	$30	Op.
Syracuse University Hospital of the Good Shepherd	Syracuse	yes	yes	yes	yes	yes	244	No	6	Ex.	12	July	No	None
Syracuse Memorial Hospital[1]	Syracuse	yes	yes	yes	yes	yes	150	No	3	Ap.	12	July	No	None
Samaritan Hospital	*Troy*	*48*	*40*	*6*	*15*	*70*	*179*	No	*3*	Ap.	*12*	(jj)	$50	Req.
Grasslands Hospital[1]	Valhalla	74	124	10	30	138	376	No	9	Ap.	12	July	$50	Req.
St. John's Riverside Hospital	Yonkers	32	22	..	26	22	102	No	4	Ap.	12-18	(oo)	$25	Op.
St. Joseph's Hospital	Yonkers	41	35	26	..	..	102	...	3	Ap.	18	.....	No	......
NORTH CAROLINA														
Watts Hospital[1]	Durham	57	35	20	12	11	135	No	3	Ap.	12	July & Aug.	$75	Req.
Rex Hospital	Raleigh	45	20	20	20	20	125	No	2	Ap.	12	June	$75	None
James Walker Memorial Hospital[1]	Wilmington	67	22	20	25	..	134	No	4	Ap.	12	July	$25	Req.
NORTH DAKOTA														
Bismarck Evangelical Hospital[1]	Bismarck	75	25	15	..	25	140	No	2	Ap.	12	June	$50	None
St. John's Hospital[1]	Fargo	90	35	35	15	..	175	(44)	2	Ap.	12	Mar. & July	$25	None
OHIO														
City Hospital	Akron	yes	yes	yes	..	..	210	(45)	6	Ap.	12	July	$25	Req.
Bethesda Hospital	Cincinnati	70	68	44	33	..	215	No	8	Ap.	12	July	$25 (1-p)	Req.
Christ Hospital	Cincinnati	80	48	20	..	17	165	(46)	5	Ap.	12	July	$25	Req.
Cincinnati General Hospital[1]	Cincinnati	125	100	42	108	340	715	(47)	24	Ap.	12	July	No	Req.
Good Samaritan Hospital[1]	Cincinnati	126	56	24	34	..	240	(48)	10	Ap.	12	July	$25	None
Jewish Hospital	Cincinnati	88	60	53	50	40	291	No	6	Ap.	12	July	$25	None
St. Mary	Cincinnati	100	50	..	15	..	165	No	4	Ap.	12	July	$50	Req.
Cleveland	Cleveland	140	180	50	65	615	1,050	No	24	Ap.	12	July	No	Req.
Lakeside	Cleveland	87	73	..	27	86	273	(49)	21	Ap.	12	July	No	Req.
Mt. Sinai Hospital	Cleveland	yes	yes	yes	yes	yes	262	(50)	10	Ap.	12	July	$10 (1-q)	Op.
St. Alexis Hospital	Cleveland	116	54	..	30	..	200	(51)	8	Ap.	12	July	$25	Op.
St. John's Hospital	Cleveland	82	38	26	12	26	184	No	6	Ap.	12	July	$25	Req.
St. Luke's Hospital[1]	Cleveland	58	40	19	20	43	180	No	7	Ap.	12	July	$25	Req.
St. Vincent Charity Hospital	Cleveland	215	40	..	20	..	275	No	10	Ap.	12	July	No	Req.
Grant Hospital	Columbus	184	57	29	30	..	300	No	8	Ap.	12	June	$50	Req.
Hawkes Hospital of Mt. Carmel	Columbus	147	36	17	25	..	225	No	6	Ap.	12	July	$25 (h)	None
St. Francis Hospital	Columbus	80	80	..	..	..	160	(52)	4	Ap.	12	July	$16.66	Req.
White Cross Hospital	Columbus	yes	yes	yes	yes	yes	260	No	6	Both	12	Jan. & July	$25	Req.
Miami Valley Hospital	Dayton	yes	yes	yes	yes	yes	361	No	9	Ap.	12	July	$25	Req.
St. Elizabeth Hospital	Dayton	95	75	60	10	203	443	No	4	Ap.	12	July	$25	Req.
City Hospital	Springfield	34	25	25	12	36	132	No	3	Ap.	12	July	$50	Req.
Lucas County Hospital	Toledo	64	74	10	18	170	336	No	6	Ap.	12	Jan. & July	$50	Req.
St. Vincent's Hospital	Toledo	162	85	35	49	9	340	No	9	Ap.	12	July	$25	Req.
Toledo Hospital	Toledo	65	40	15	10	..	130	No	4	Ap.	12-24	July	$60	Req.
St. Elizabeth's Hospital	Youngstown	70	50	25	55	..	200	No	4	Ap.	12	July	$30	Req.
Youngstown Hospital[1]	Youngstown	66	50	52	30	77	275	No	7	Ap.	12	July	$25	Req.
OKLAHOMA														
St. Anthony Hospital[1]	Oklahoma City	50	50	50	25	5	180	No	4	Ap.	12	June & July	$25 (1-h)	Req.
State University Hospital[1]	Oklahoma City	100	100	26	60	..	286	No	8	Ap.	12	July	$25	Op.
OREGON														
Emanuel Hospital	Portland	yes	yes	yes	yes	yes	250	No	2	Ap.	12	July	$10	Op.
Good Samaritan Hospital[1]	Portland	189	100	20	10	..	319	No	9	Ap.	12	June	$20	None
Multnomah Hospital[1]	Portland	60	80	15	20	25	200	(53)	10	Ap.	18	July & Oct.	$25	None
Portland Sanitarium[1]	Portland	50	30	20	..	24	124	No	2	Ap.	12	July	$65-$75	Req.
St. Vincent's Hospital	Portland	196	130	30	14	30	400	No	7	Ap.	12	July	$40	None
PENNSYLVANIA														
Abington Memorial Hospital	Abington	53	19	44	12	12	140	No	4	Ap.	12	July	$50	Req.
Allentown Hospital[1]	Allentown	60	40	20	30	50	200	No	6	Ap.	12	June	No	Req.
Sacred Heart Hospital	Allentown	63	35	12	14	45	169	No	4	Ap.	12	July	No	Req.
Altoona Hospital	Altoona	68	48	20	17	27	180	No	4	Ap.	12	July	No	Req.
St. Luke's Hospital	Bethlehem	76	50	20	30	8	184	No	6	Ap.	12	July	$25	None
Bryn Mawr Hospital	Bryn Mawr	44	28	48	20	..	140	No	4	Ap.	12	July	No	Req.
Chester Hospital[1]	Chester	128	71	19	15	17	250	No	4	Ap.	12	July & Oct.	$50	Req.
G. F. Geisinger Memorial Hospital	Danville	60	60	16	10	10	156	(54)	8	Ap.	12	June	No	None
Easton Hospital[1]	Easton	60	34	8	15	..	117	No	4	Ap	12	July	$25	Req.
Hamot Hospital	Erie	43	24	50	25	78	220	No	6	Ap.	12	July	$25	None
St. Vincent's Hospital	Erie	yes	yes	yes	yes	yes	214	No	7	Ap.	12	July	$25	......
Harrisburg Hospital[1]	Harrisburg	yes	yes	yes	yes	yes	217	No	7	Ap.	12	July	$25	Req.
Conemaugh Valley Memorial Hospital	Johnstown	74	60	16	31	..	181	No	5	Ap.	12	June	$25	None
Lancaster General Hospital[1]	Lancaster	40	40	25	25	20	150	No	6	Ap.	12	July	$25	Req.
McKeesport Hospital	McKeesport	74	44	10	8	24	160	No	6	Ap.	12	July	$25	Req.
Frankford Hospital[1]	Philadelphia	50	24	34	15	7	130	No	6	Ap.	12	June	$20	Req.
Frederick Douglass Memorial Hosp. (col.)[1]	Philadelphia	24	24	10	10	7	75	No	3	Ap.	12	July & Sept.	No	Req.
Germantown Dispensary and Hospital	Philadelphia	54	37	24	21	39	175	No	6	Ap.	18	Jan. & July	No	Req.
Hahnemann Hospital	Philadelphia	89	51	42	28	199	409	No	14	Ap	12	July	No	Req.
Hospital of Protestant Episcopal Church	Philadelphia	264	166	..	20	..	450	(55)	16	Ap.	24	Jan. & July	No	Req.
Hospital of the University of Pennsylvania[1]	Philadelphia	yes	yes	yes	yes	yes	562	No	22	Ap.	24	(pp)	No	Req.
Hospital of Woman's Medical College[2]	Philadelphia	yes	yes	yes	yes	yes	134	No	6	Ap.	12	(qq)	No	Req.
Jefferson Medical College Hospital	Philadelphia	156	137	34	48	260	635	No	20	Ex.	24	June	No	Req.
Jewish Hospital	Philadelphia	76	65	..	16	68	225	(56)	9	Ex	18	July	No	Req.
The Lankenau Hospital	Philadelphia	140	96	9	..	12	257	No	8	Ap	24	†	No	Req.
Memorial Hospital	Philadelphia	32	21	12	6	29	100	No	4	Ap.	12	July	$25	Req.
Mercy Hospital (col.)[1]	Philadelphia	20	21	20	10	29	100	No	5	Ap.	12	July & Oct.	No	Req.
Methodist Episcopal Hospital[1]	Philadelphia	yes	yes	yes	yes	yes	300	No	8	Ex.	12	July	No	Req.

Numerical and other references will be found on pages 1062 and 1063.

		Number of Beds							Internships					
Name of Hospital	Location	Surgical	Medical	Obstetric	Pediatric	Other	Total	Affiliated—For What Service	Number	By Examination or Appointment	Length of Service in Months	Begin	Salary per Month	Dispensary Service
PENNSYLVANIA—Continued														
Misericordia Hospital[1]	Philadelphia	71	50	34	25	120	300	No	12	Both	12	July	No	Req.
Mount Sinai Hospital[1]	Philadelphia	75	60	..	25	..	160	(56)	10	Ex.	12	June	No	Op.
Pennsylvania Hospital	Philadelphia	205	113	..	..	..	318	(57)	16	Ap.	24	July	No	Req.
Philadelphia General Hospital[1]	Philadelphia	307	475	100	145	1,073	2,100	(58)	53	Ex.	24	July	No	Req.
Polyclinic and Medico-Chirurgical Hosp.[1]	Philadelphia	75	72	36	57	123	363	No	18	Ex.	12	July	No	Req.
Presbyterian Hospital	Philadelphia	yes	yes	yes	yes	yes	302	No	10	Ex.	24	July	No	Req.
Samaritan Hospital	Philadelphia	120	39	45	12	16	232	No	8	Ex.	12	July	No	Req.
St. Agnes	Philadelphia	147	88	50	28	18	331	No	9	Ap.	12	July	No	Req.
St. Joseph's	Philadelphia	63	60	6	22	24	175	(59)	9	Ap	12	July	No	Req.
St. Mary's Hospital	Philadelphia	96	37	40	23	12	208	No	7	Ap.	12	June	No	Req.
Women's Homeopathic Hospital[1]	Philadelphia	47	40	60	28	60	235	No	4	Ex.	12	July	$20	Op.
Woman's Hospital of Philadelphia[2]	Philadelphia	41	34	75	35	..	185	No	8	Ap.	12	July & Aug.	No	Req.
Allegheny General Hospital	Pittsburgh	143	60	52	57	88	400	No	12	Ap.	12	July	No	Req.
Mercy Hospital[1]	Pittsburgh	225	83	26	60	186	580	No	18	Ex.	12	July	No	Req.
Montefiore	Pittsburgh	yes	yes	yes	yes	yes	65§	No	3	Ap.	12	July	$35	Req.
Passavant	Pittsburgh	24	63	32	12	24	155	(60)	8	Ap.	12	July	No	Req.
Pittsburgh Homeopathic Hospital[1]	Pittsburgh	86	40	24	20	..	170	No	6	Ap.	12	July	No	Req.
Pittsburgh Hospital	Pittsburgh	42	36	36	6	..	120	No	4	Ap.	12	July	No	Req.
Presbyterian Hospital	Pittsburgh	80	49	34	37	..	200	No	6	Ap.	12	July	No	Req.
South Side Hospital[1]	Pittsburgh	59	45	21	26	74	225	No	6	Ap.	12	July	No	Op.
St. Francis Hospital[1]	Pittsburgh	175	150	30	40	220	615	(61)	16	Ap.	12	July	No	Req.
St. John's General Hospital	Pittsburgh	95	39	20	48	..	202	No	5	Ap.	12	July	No	Req.
St. Joseph's Hospital and Dispensary	Pittsburgh	45	35	4	18	28	130	No	4	Ap.	12	July	No	......
St. Margaret Memorial Hospital	Pittsburgh	50	55	29	14	..	148	No	4	Ap.	12	July	$25	Req.
Western Pennsylvania Hospital[1]	Pittsburgh	249	131	32	27	61	500	No	20	Ap.	12	July	No	Req.
Pottsville Hospital	Pottsville	40	28	16	9	47	140	No	4	Ap.	12	July	$25	None
Reading Hospital[1]	Reading	55	28	20	10	37	150	No	6	Ap.	12	July	No	Req.
Robert Packer Hospital	Sayre	yes	yes	yes	yes	yes	235	No	6	Ap.	12	July & Oct.	$8.33	Req.
Hahnemann Hospital	Scranton	24	20	11	12	58	125	No	3	Ap.	12	July	$12.50	Req.
Scranton State Hospital[1]	Scranton	81	48	15	11	33	188	No	6	Ap.	12	July	$8.33	Req.
Uniontown Hospital[1]	Uniontown	78	50	20	5	25	178	No	6	Ap.	12	July	$25	Req.
Chester County Hospital	West Chester	24	30	16	yes	46	116	No	3	Ap.	12	July	$50	None
Mercy Hospital[1]	Wilkes-Barre	67	56	20	35	7	185	No	4	Ex.	12	July	No	Req.
Wilkes-Barre General Hospital[1]	Wilkes-Barre	95	45	23	..	88	251	No	5	Ap.	12	July	No	Req.
Columbia Hospital[1]	Wilkinsburg	50	50	46	15	35	196	No	5	Ap.	12	July	$25	Req.
York Hospital[1]	York	34	35	12	25	..	106	No	3	Ap.	12	July	$35	Req.
RHODE ISLAND														
State Infirmary[1]	Howard	yes	yes	yes	yes	yes	600	(62)	2	Ap.	12	July	$50	None
Memorial Hospital	Pawtucket	yes	yes	yes	yes	yes	100	No	3	Ap.	12	(rr)	$16.67	Op.
Rhode Island Hospital	Providence	250	200	25	50	75	600	No	14	Ap.	12	†	No	None
St. Joseph's Hospital	Providence	yes	yes	yes	yes	yes	184	No	4	Ap.	12	July	No	Req.
SOUTH CAROLINA														
Roper Hospital	Charleston	100	120	30	50	..	300	No	12	Ap.	12	July	No (1-r)	Op.
Columbia Hospital of Richland County	Columbia	yes	yes	yes	yes	yes	125	No	3	Ap.	12	July	$30	Req.
South Carolina Baptist Hospital	Columbia	49	50	9	17	..	125	No	2	Ap.	12	June	$50	Req.
Greenville City Hospital[1]	Greenville	50	34	13	10	18	125	No	3	Ap.	12	July	$50	Req.
TENNESSEE														
Baroness Erlanger Hospital	Chattanooga	100	50	15	25	10	200	No	5	Ap.	12	July	$50	Req.
Knoxville General Hospital	Knoxville	92	35	18	10	45	200	No	6	Ap.	12	July	$50	Req.
Baptist Memorial Hospital	Memphis	yes	yes	yes	yes	yes	350	No	5	Ap.	12	July	$50	None
Memphis General Hospital	Memphis	36	58	30	25	121	290§	No	15	Ap.	12	July	$25	Req.
St. Joseph's Hospital[1]	Memphis	100	80	30	20	20	250	No	5	Ap.	12	July	...	None
Geo. W. Hubbard Hospital (col.)	Nashville	37	45	12	29	17	140	No	4	Ex.	12	Jan. & July	No	Req.
Nashville General Hospital	Nashville	40	25	20	20	45	150	No	6	Ap	12	July	$25	Req.
Protestant Hospital[1]	Nashville	yes	yes	yes	yes	yes	82§	No	4	Ap.	12	July	$50	None
St. Thomas Hospital	Nashville	150	25	25	..	..	200	No	6	Ap.	12	June	$40	Op.
Vanderbilt University Hospital	Nashville	yes	yes	yes	yes	yes	180	No	7	Ap.	12	July	$25	Req.
TEXAS														
Hotel Dieu	Beaumont	yes	yes	yes	yes	yes	150	No	1	Ap.	12	June	No	None
Baylor Hospital[1]	Dallas	174	73	50	50	67	414	No	13	Ap.	12	July	$25	Op.
Parkland Hospital	Dallas	64	52	31	10	117	274	...	10	....	12	.....	...	......
St. Paul's Sanitarium[1]	Dallas	163	67	30	18	22	300	No	8	Ap.	12	July	$25	Req.
William Beaumont General Hospital	El Paso	141	237	25	yes	..	403	No	8	Ap.	12	July	(f)	Req.
Harris Hospital	Ft. Worth	50	25	10	8	7	100	No	2	Ap.	12	July	$25	Req.
John Sealy Hospital	Galveston	98	144	18	15	45	320	No	8	Ap.	12	June & July	No	Req.
St. Mary's Infirmary[1]	Galveston	50	50	12	15	73	200	No	2	Ap.	12	June	$25	None
Baptist Hospital	Houston	yes	yes	yes	yes	yes	200	No	3	Ap.	12	June	$50	Req.
St. Joseph's Infirmary[1]	Houston	166	60	18	6	..	250	No	4	Ap.	12	July	$40	Req.
Robert B. Green Memorial Hospital[1]	San Antonio	34	17	15	17	52	135	No	6	Ap.	12	July	$25	None
Santa Rosa Infirmary	San Antonio	79	54	17	15	135	300	No	5	Ap.	12	July	$10	None
Station Hospital, Fort Sam Houston	San Antonio	295	490	15	..	..	800	No	13	Ap.	12	July	(f)	Req.
Gulf, Colorado & Sante Fe Hospital	Temple	50	75	..	..	..	125	(63)	2	Ap.	12	July	$50	None
Scott and White Hospital	Temple	yes	yes	yes	yes	yes	135	(64)	3	Ap.	12	July	$50	None
Providence Sanitarium	Waco	60	20	16	12	42	150	No	2	Ap.	12	July	$50	Op.
UTAH														
Thomas D. Dee Memorial Hospital	Ogden	50	40	20	15	10	135	No	2	Ap.	12	July	$50	Req.
Dr. Groves' Latter Day Saints Hospital[1]	Salt Lake City	136	59	33	22	..	250	No	5	Ap.	12	July	$25	None
Holy Cross Hospital	Salt Lake City	100	41	31	20	33	225	No	3	Ap.	12	July	$50	None
Salt Lake County General Hospital	Salt Lake City	40	51	12	14	79	196	No	3	Ap.	12	July	$30 (1-s)	Req.
St. Mark's Hospital	Salt Lake City	yes	yes	yes	yes	yes	150	No	2	Ap.	12	July	$50	None
VERMONT														
Mary Fletcher Hospital[1]	Burlington	yes	yes	yes	yes	yes	150	No	5	Ap.	12	July & Sept.	(1-g)	Req.
VIRGINIA														
Hospital of St. Vincent de Paul	Norfolk	105	58	22	45	22	252	No	5	Ap.	12	July	$25	Req.
Norfolk Protestant Hospital	Norfolk	68	25	25	7	..	125	No	3	Ap.	12	July	$25	None
U. S. Marine Hospital No. 82	Norfolk	89	72	..	..	56	217	(65)	2	Ap.	12	July	(f)	Req.
Medical College of Virginia, Hospital Div.[1]	Richmond	yes	yes	yes	yes	yes	424	No	12	Ap.	12	(jj)	$25	Req.
Retreat for the Sick[1]	Richmond	60	18	10	8	10	106	No	3	Ap.	12	July	$50	None
Jefferson Hospital	Roanoke	yes	yes	yes	yes	yes	100	No	4	Ap.	12	July	$50	Req.
University of Virginia Hospital[1]	University	75	60	25	40	60	260	(66)	18	Ap.	24	†	No	Req.
WASHINGTON														
King County Hospital[1]	Seattle	66	132	13	9	..	220	No	3	Ap.	12	July	$50	Req.
Seattle City Hospital	Seattle	yes	yes	yes	yes	yes	125	(67)	6	Ap.	12	July	$75	Req.
Seattle General Hospital	Seattle	50	20	30	..	30	140	(68)	4	Ap.	12	***	$50	Req.

Numerical and other references will be found on pages 1062 and 1063.

Name of Hospital	Location	Number of Beds						Affiliated—For What Service	Internships						Dispensary Service
		Surgical	Medical	Obstetric	Pediatric	Other	Total		Number	By Examination or Appointment	Length of Service in Months	Begin	Salary per Month		
Swedish Hospital[1]	Seattle	yes	yes	yes	yes	yes	152	(68)	4	Ap.	12	July & Aug.	$50		Req.
Virginia Mason Hospital	Seattle	34	34	12	..	20	100	No	2	Ap.	12	.....	$50		Req.
Maria Beard Deaconess Hospital[1]	Spokane	70	60	32	16	30	208	No	3	Ap.	12	July	$50		Op.
St. Luke's Hospital	Spokane	90	40	30	15	..	175	No	3	Ap.	12	July	$50		Req.
Northern Pacific Beneficial Association Hospital	Tacoma	45	50	12	10	18	135	(69)	2	Ap.	12	July	$25		Req.
Tacoma General Hospital[1]	Tacoma	59	48	28	14	11	160	No	3	Ap.	12	July	$50		Req.
WEST VIRGINIA															
Charleston General Hospital	Charleston	yes	yes	yes	yes	yes	200	(70)	4	Ap.	12	July	$50		Op.
Ohio Valley General Hospital	Wheeling	70	60	20	23	..	173	No	3	Ap.	12	June	$50		Op.
Wheeling Hospital	Wheeling	137	55	23	10	..	225	No	4	Ap.	12	July	$50		None
WISCONSIN															
St. Elizabeth Hospital	Appleton	150	50	35	10	5	250	No	2	Ap.	12	July	$50		Op.
St. Joseph's Hospital	Ashland	60	55	25	20	15	175	No	1	Ap.	12	July	$50		Op.
La Crosse Lutheran Hospital	La Crosse	60	20	10	10	10	110	No	2	Ap.	12	July	$50		None
St. Francis Hospital[1]	La Crosse	90	55	25	20	20	210	No	3	Ap.	12	July	$30		None
Madison General Hospital	Madison	68	17	30	10	..	125	No	3	Ap.	12	July	$50		Req.
St. Mary's Hospital	Madison	79	40	40	16	..	175	No	3	Ap.	12	July	$25		Req.
Wisconsin General Hospital[1]	Madison	175	160	25	40	..	400	No	12	Ap.	12	Jan. & July	No		None
St. Joseph's Hospital	Marshfield	yes	yes	yes	yes	yes	150	No	3	Ap.	12	July	$50		Req.
Columbia Hospital	Milwaukee	63	10	20	..	17	110	(71)	5	Ap.	24	July	$25		Req.
Evangelical Deaconess Hospital[1]	Milwaukee	yes	yes	yes	yes	yes	120	No	2	Ap.	12	June	$50		Req.
Marquette University Hospital	Milwaukee	20	20	23	10	82	155	No	4	Ap.	12	July	$50		None
Milwaukee Hospital (The Passavant)	Milwaukee	yes	yes	yes	yes	yes	150	(72)	8	Ap.	12	July	$30		None
Mount Sinai Hospital	Milwaukee	60	36	28	26	..	150	No	5	Ap.	12	July	$25		Req.
St. Joseph's Hospital	Milwaukee	70	35	18	15	..	138	No	2	Ap.	12	July	$25		Op.
St. Mary's Hospital	Milwaukee	103	30	30	16	24	203	No	5	Ap.	12	July	$25		Op.
Mercy and St. Mary's Hospitals	Oshkosh	80	38	20	12	..	150	No	2	Ap.	12	July	$50		None
St. Mary's Hospital	Superior	35	30	23	15	..	103	No	1	Ap.	12	July	$25		Req.
Milwaukee County Hospital[1]	Wauwatosa	100	150	..	..	58	308	(73)	14	Ex.	12	July	$25		Req.
CANADA															
University of Alberta Hospital[1]	Edmonton, Alta.	51	65	20	13	42	191	(74)	2	Ex.	12	May	$25		Req.
Montreal General Hospital	Montreal, Que.	120	90	..	25	165	400	(75)	34	Ap.	12	July	No		Req.
Royal Victoria Hospital	Montreal, Que.	142	122	..	40	196	500	(75)	39	Ap.	12	July	No		Req.
Toronto General Hospital[1]	Toronto, Ont.	325	206	62	..	157	750	No	35	Ap.	12	July	No		Req.
Vancouver General Hospital[1]	Vancouver, B. C.	191	187	124	97	301	900	No	14	Ap.	12	June	$25		Req.
Winnipeg General Hospital[1]	Winnipeg, Man.	240	165	71	16	158	650	No	24	Ex.	12	June & Dec.	No		Req.
CANAL ZONE															
Ancon Hospital	Ancon	300	400	25	80	75	880	No	6	Ap.	12	July	$75		None
HAWAII															
Queen's Hospital	Honolulu	yes	yes	yes	yes	yes	300	(5)	6	Ap	15	†	(1-t)		Req.
PHILIPPINE ISLANDS															
Philippine General Hospital[1]	Manila	184	124	48	55	143	554	No	30(ss)	Ap.	12	Apr.	No		Req.
FOREIGN															
Peking Union Medical College Hospital[1]	Peking, China	yes	yes	yes	yes	yes	213	No	20	Ap.	12	July	$7.50		Req.

(a) Bonus of $300.
(b) Fifteen dollars a month for first 6 months, $20 a month for last 6 months.
(c) Twelve juniors, 5 seniors.
(d) Juniors July first, seniors August first.
(e) Juniors $10 a month, seniors $25 a month.
(f) $166.67 a month and allowances.
(g) Plus $10 bonus for 95% histories.
(h) Bonus of $100.
(i) Junior $25 a month, senior $75 a month.
(j) $155 a month and quarters but not food.
(k) Bonus of $150.
(l) Juniors $10 a month, seniors $75 to $100 a month.
(m) Bonus at Christmas and end of year plus a small monthly stipend.
(n) Bonus of $100 each 6 months.
(o) Twenty-five dollars a month for first 6 months, $35 a month for last 6 months.
(p) Bonus of $125.
(q) Seventeen juniors, 6 seniors.
(r) Juniors $10 a month, seniors $15 a month, bonus $100.
(s) Twenty-five dollars a month for first 6 months, $50 a month for last 6 months.
(t) Bonus of $60.
(u) Plus 50% of accident fees.
(v) Eleven seniors, 9 juniors.
(w) Thirty dollars and $50 a month.
(x) Ten dollars a month for 11 months and $190 on completion of 12 months satisfactory service.
(y) Twenty-five dollars a month for the second year.
(z) $125 a month for first 6 months, $137.50 for next 6 months and $150 for last 6 months.
(1-a) Juniors $20 a month, seniors $30 a month.
(1-b) Forty-eight juniors, 8 seniors.
(1-c) Juniors $25 a month, seniors $95 a month.
(1-d) Twenty-five dollars a month last 2 months only.
(1-e) Bonus of $250.
(1-f) Twenty-five dollars a month for 14 months, $100 on fifteenth month.
(1-g) Fifty dollars a year.
(1-h) Bonus of $200.
(1-i) Bonus of $75.
(1-j) Fifty dollars a month for first 6 months, $75 for next 6 months and $100 for last 6 months.
(1-k) Eight dollars and thirty-three cents a month for first 4 months, $16.66 for second 4 months and $33.33 for last 4 months.
(1-m) Thirty dollars only for the last 3 months.
(1-n) Thirty-five dollars a month for first year, $45 a month for second year.
(1-o) Twenty-five dollars a month for first year, $50 a month for second year and $100 a month for third year.
(1-p) Bonus of $120.
(1-q) Bonus of $180.
(1-r) Honorarium at end of service.
(1-s) Bonus of $240.
(1-t) Fifty dollars a month for first 6 months, $75 for next 3 months and $100 for last 6 months.
(1-u) Juniors $25 a month, seniors $40 a month.
§ Addition under construction.
* Twelve months with the privilege of an additional twelve months.
** Every two months.
*** Internships for different services begin at different times.
† Every three months.
†† January, July and September.
††† January, June and September.
†††† Every ten weeks.
# January, July and October.
## April, July and October.
### January 1, June 1, June 15, and July 1.
¶ Every month.
¶¶ June and August.
¶¶¶ Surgical, medical and obstetrical services begin first Monday in March, July and November; pediatric service begins first Monday in February, April, June, August, October and December.
++ Surgical, medical, obstetrical services, etc., 20 months and 2 weeks; pediatric service, 10 months.
+++ April, August and December.
(aa) March, July and November.
(bb) March, June, September and December.
(cc) April, July and August.
(dd) June, July and August.
(ee) May 15 and every six weeks.
(ff) When vacancies occur.
(gg) First of every month, August excepted.
(hh) July, August and October.
(ii) June 1, July 15, October 15 and December 15.
(jj) July, August and September.
(kk) February, May, August and November.
(mm) January, May and September.
(nn) February, June and October.
(oo) January, March, May and November.
(pp) Every month from June to November.
(qq) May, June, July, October and December.
(rr) April, June and September.
(ss) Internships for 1926 reserved for the fifth year students of the College of Medicine, University of the Philippines.
1. Women interns admitted.
2. Women interns only.
3. Including tuberculosis.

Affiliations as referred to in column headed "Affiliated—For What Service"

4 Los Angeles Receiving Hospital, Los Angeles
5 Kapiolani Maternity Home, Honolulu, for obstetric training
6 University of California Medical School and Hospital
7 University of California
8 Napa State Hospital, Imola for psychiatric training
9 University of California Hospital for training in obstetrics, gynecology and pediatrics
10 St Francis Hospital, San Francisco, for obstetric training
11 Baby Hospital, Oakland, for pediatric training, and Arroyo Sanatorium, Livermore, for tuberculosis training
12 St Joseph's Hospital, Denver, for training in children's diseases, obstetrics and gynecology, also Children's Hospital, Denver
14 Hartford Isolation Hospital, Hartford, for contagious diseases
15 Garfield Memorial Hospital and Children's Hospital for obstetric and pediatric training
16 City Hospital, Atlanta
17 Chicago Fresh Air Hospital, for tuberculosis training
18 Municipal Contagious Disease Hospital, Chicago
19 Misericordia Hospital, Chicago, for training in obstetrics and pediatrics
20 Chicago Winfield Tuberculosis Sanitarium, Winfield, for tuberculosis training
21 [illegible] al, Chicago, for training in obstetrics,
22 [illegible] Sanatorium, Decatur, for tuberculosis training
23 Women interns admitted to pediatric service
24 Municipal Hospital, Detroit, for training in tuberculosis and contagious diseases
25 James Whitcomb Riley Hospital for Children, Indianapolis
26 Herman Kiefer Hospital, Detroit for training in obstetrics and contagious diseases, also Children's Free Hospital, Detroit
27 St Joseph's Retreat, Dearborn, for training in mental diseases
28 Herman Kiefer Hospital Detroit, for obstetric training
29 Grand Rapids Tuberculosis Sanatorium, Grand Rapids, for tuberculosis training
30 Children's Home Duluth, for pediatric training, and Bethel Home for Women and Children, Duluth, for obstetric training
31 Thomas Tubercular Hospital Minneapolis
32 Glen Lake Sanatorium, Oak Terrace, for tuberculosis training
33 Shriners' Hospital St Paul for orthopedic training
34 Salvation Army Home and Hospital, St Louis, for obstetric training
35 Robert Koch Hospital, Koch, for tuberculosis training, also City Isolation Hospital, City Sanitarium, and City Infirmary
36 Municipal Hospital, Atlantic City, for contagious diseases, also Tuberculosis Hospital
37 Jersey City Hospital for obstetric training
38 Newark Maternity Hospital, for obstetric training
39 Municipal Hospital, Trenton, for contagious diseases
40 Brady Maternity Hospital, Albany, for obstetric training.
41 St Mary's Maternity Hospital Buffalo, for obstetric training also Emergency Hospital, Buffalo
42 Providence Retreat, St Mary's Maternity Hospital, and Buffalo Hospital of the Sisters of Charity, for training in obstetrics and neurology
43 Reconstruction Hospital New York City, for traumatic surgery
44 City Detention Hospital, Fargo, for contagious diseases
45 Children's Hospital Akron, for pediatric training
46 Children's Hospital of the Protestant Episcopal Church, Cincinnati, for pediatric training
47 Cincinnati [illegible]
48 Seton Mat[illegible] for obstetric training
49 Cleveland [illegible] stetric and pediatric training
50 Cleveland [illegible] g in psychiatry and contagious diseases
51 St Ann's Maternity Hospital, Cleveland, for obstetric training
52 University Hospital, Columbus, for obstetric training
53 Shriners' Hospital, Portland, for orthopedic training
54 Danville State Hospital, Danville, for training in neurology, psychiatry and neuropsychiatry
55 Kensington Hospital for Women, Philadelphia, for obstetric training
56 Jewish Maternity Hospital, Philadelphia, for obstetric training
57 Philadelphia Lying In Hospital, for obstetric training
58 Philadelphia Hospital for Contagious Diseases
59 St Vincent's Hospital, Philadelphia for obstetric training
60 Mayview City Hospital, Mayview, for psychiatric training
61 Municipal Hospital, Pittsburgh, for contagious diseases
62 State Hospital for Mental Diseases, Howard
63 Scott and White Hospital, Temple, for training in obstetrics, pediatrics, etc
64 Gulf, Colorado & Santa Fe Hospital, Temple, for additional medical and surgical training
65 Norfolk Protestant Hospital, Norfolk, for obstetric training, and the Children's Hospital and Clinic of the King's Daughters Norfolk, for pediatric training
66 Blue Ridge Sanatorium, Charlottesville, for tuberculosis training
67 City Tuberculosis and Contagious Hospitals, Seattle
68 Children's Hospital Seattle, for orthopedic and pediatric training
69 Pierce County Hospital, Tacoma, for obstetric and pediatric training
70 Hill Crest Sanatorium, Charleston, for tuberculosis training
71 Milwaukee Children's Hospital Milwaukee Infants' Hospital and the South View Municipal Hospital, for training in pediatrics and contagious diseases
72 Milwaukee Children's Hospital, for children's services
73 Milwaukee County Infirmary
74 Misericordia and Royal Alexandra Hospitals, Edmonton, for obstetrics and communicable diseases
75 Alexandra Hospital for Contagious Diseases, Montreal.
76 Municipal Hospital, Rochester.

HOSPITALS PROVIDING APPROVED RESIDENCIES AND COURSES IN CERTAIN SPECIALTIES

Barnes Hospital, 600 S Kingshighway, St Louis —Residencies in the Specialties, Internal Medicine, Obstetrics, Surgery and Gynecology. Dr L D Burlingham, Medical Superintendent

Bloomingdale Hospital for Mental Diseases, White Plains, N Y —Courses in Psychiatry Dr W L Russell, Medical Director

Boston Psychopathic Hospital, 74 Fenwood Road, Boston 17, Mass —Residencies in Neurology and Psychiatry Dr Karl M Bowman, Chief Medical Officer

Children's Hospital of Michigan, 5224 St. Antoine St, Detroit —Residencies in Pediatrics Miss Margaret A Rogers, R N, Superintendent

Children's Memorial Hospital, 735 Fullerton Ave, Chicago —Special Courses in Infant Feeding, Pediatrics and Otolaryngology Dr G E Baxter, Secretary

Colorado Psychopathic Hospital, 4200 E Ninth Ave, Denver, Colo —Residencies in Neuro Psychiatry. Dr Franklin G Ebaugh, Medical Director

Elizabeth Steel Magee Hospital, Forbes and Halket St, Pittsburgh Pa —Residencies in Obstetrics and Gynecology Miss Jesse J Turnbull, Superintendent

Fitzsimons General Hospital, Denver, Colo —Special Residencies in Tuberculosis Address Commanding Officer.

Hospital for Joint Diseases, Madison Ave from 123d to 124th Sts New York City —Residencies in Orthopedic Surgery, and Physiotherapy Dr Henry W Frauenthal, Medical Director

Illinois Eye and Ear Infirmary, 904 W Adams St, Chicago —Residencies in Ophthalmology and Otology Dr Leo Steiner, Managing Officer

James Whitcomb Riley Hospital for Children, Indianapolis —Residencies in Pediatrics Dr Robert E Neff, Administrator

Jefferson Clinic and Diagnostic Hospital, 2201 Jefferson Ave E, Detroit, Mich —Special Residencies in General Surgery Mr Carl F Johnson, Superintendent

Johns Hopkins Hospital Baltimore —Residencies in the Specialties Dr Winford H Smith, Director

Louisville City Hospital Preston and Chestnut Sts, Louisville Ky —Residencies in Medicine, Surgery, Pathology and Pediatrics Ernest Shouse, Superintendent

Manhattan Eye, Ear and Throat Hospital, 210 E 64th St New York City —Special Internships in Eye and in Ear, Nose and Throat Mr Reuben O Brien, Superintendent

Manhattan Maternity and Dispensary, 327 E 60th St New York City —Special Residencies in Obstetrics Miss Emily A Porter, R N, Superintendent

Massachusetts Eye and Ear Infirmary, 243 Charles St, Cor Fruit St, Boston —Special Internships in Eye, and in Ear, Nose and Throat Dr Frederic A Washburn, Director

Milwaukee Children's Hospital, 219, 10th St, Milwaukee —Special Residencies in Pediatrics B M Henderson, Superintendent

Misericordia Hospital, 2224 Chestnut St, Milwaukee —Special Residencies in Obstetrics Sister Marie Immaculate Conception, R N, Superintendent

Montefiore Hospital, Gun Hill Road near Jerome Ave New York City —Special Residencies in Medicine, Neurology Tuberculosis and Orthopedic Surgery Dr Ernst P Boas, Medical Director

Mount Sinai Hospital, Fifth Ave and 100th St New York City —Courses in Internal Medicine, Pediatrics, Surgery Gynecology, Dietetics, Dermatology, Neurology, Psychiatry, Ophthalmology Otology and Surgical Pathology Write to the Secretary for Medical Instruction, 1 E 100th St

New Haven Hospital 330 Cedar St, New Haven, Conn —Special Residencies in Gynecology, Medicine and Obstetrics Mr Albert W Buck, Superintendent

New York Eye and Ear Infirmary, Second Ave Coroner 13th St, New York City —Special Residencies in Ophthalmology and Otology Mr Thomas K Robertson, Superintendent

New York Post Graduate Hospital, Second Ave and Twentieth St, New York City —Special Internships and General Practice Courses Dr William D Cutter, Medical Director

New York Skin and Cancer Hospital, 2d Ave and 19th St, New York City —Courses for General Practitioners Miss Sara Burns R N, Superintendent

New York Society for the Relief of the Ruptured and Crippled, 321 East 42d St, New York City —Special Courses in Orthopedic Surgery Dr Joseph D Flick, Superintendent

Pennsylvania Hospital, 4401 Market St Philadelphia —Courses in Neurology and Psychiatry Dr Earl D Bond, Physician in Chief

Peter Bent Brigham Hospital, 721 Huntington Ave, Boston —Special Courses in Medicine, Surgery, Pathology and Roentgenology Dr J B Howland Superintendent

Providence City Hospital, Eaton St, Providence Rhode Island —Courses in Contagious Diseases Dr D L Richardson Medical Superintendent

Southern Pacific Hospital Bishop and Thomas Sts Houston, Texas —Residencies in Surgery Dr R W Knox, Chief Surgeon

South View Hospital, 18th Ave and Mitchell St Milwaukee —Courses in Contagious Diseases Dr M R French, Medical Superintendent

State Hospital for Mental Diseases, Howard, Rhode Island —Courses in Neurology Dr Arthur H Harrington Medical Superintendent

St Elizabeth's Hospital Claremont and LeMoyne Sts Chicago —Summer Courses in Clinical Medicine Sister M Cordula, Superintendent

St Francis Hospital, Bush and Hyde St, San Francisco, Calif —Residencies in General Practice Dr John W Ramsey, Medical Director

St Louis Children's Hospital, 500 S Kingshighway St Louis —Residencies in Pediatrics Dr L H Burlingham, Administrator.

St. Mary's, Colonial, Kahler, Worrell and Damon Hospitals, Rochester, Minn.—Services in these hospitals form part of the Fellowships in the University of Minnesota Graduate Medical School. See Jr A. M. A., April 16, 1924, pp 520.

Wills Hospital, Philadelphia.—Residencies, 16 Months, in Ophthalmology. Mr Stephen Wierzbichi, Superintendent

Paris—International Clinics of
Facio Maxillary Surgery, St Lo
Courses in Oto Rhino Laryngology a
inquiries may be addressed to Dr. J. Eastman Sheehan, 636 Fifth Ave., New York.

Porto Rico—Presbyterian Hospital, San Juan.—Courses in Tropical Medicine. Dr. Garry R. Burke, Associate Medical Director.

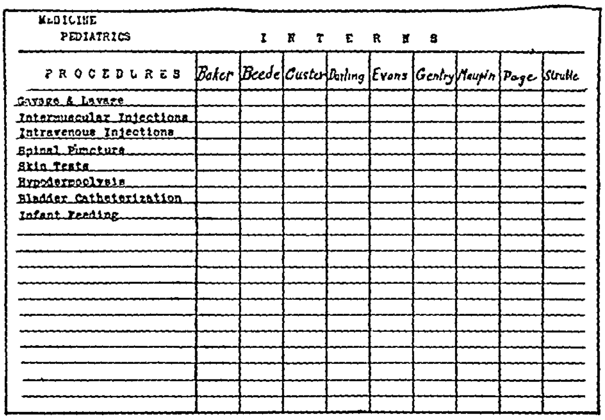
Future Additions to the Approved Lists

Hospitals that want to be accredited for interns and also those special or general hospitals which provide residencies or advanced internships in specialties are invited to make application to be included in the appropriate list. Approval of residencies in specialties is extended to only those hospitals that require a general internship for admission to the residencies. The requirements for approval under either list are available in pamphlet form.

A PRACTICAL PLAN FOR CHECKING AND RECORDING THE WORK OF INTERNS

With the increasing importance of the fifth, or intern, year in hospitals there is a demand for some practical scheme for recording and checking the work of the interns to insure that they go through a sufficient amount and variety of medical and surgical procedures.

The scheme that is described here is one that is in use by the Leland Stanford University in checking the work of the interns. It consists of a list of the procedures required to be performed by the interns in the course of their internship in the Lane Hospital, San Francisco, and also cards similar to the one illustrated in this article. "The outline of procedure does not include the ordinary work-up and therapy of the intern's cases, but consists of procedures which were found from questioning recent graduates to be most useful in starting general practice. The outlining of these practical points in therapy not only helps the intern to make a living in competition with the older practitioners, but, in addition, checks his work in the hospital so that the essential points are not overlooked in the hurry of a big service. This makes the institution realize that the intern has certain things to learn and that it is the duty of the organization to see that he gets them"



MEDICINE
PEDIATRICS

	INTERNS								
PROCEDURES	Baker	Beede	Custer	Darling	Evans	Gentry	Maupin	Page	Strutle
Gavage & Lavage									
Intermuscular Injections									
Intravenous Injections									
Spinal Puncture									
Skin Tests									
Hypodermoclysis									
Bladder Catheterization									
Infant Feeding									

Card for checking work of interns in the required procedures

PROCEDURES REQUIRED TO BE PERFORMED BY STUDENT INTERNS IN THE COURSE OF THEIR ROTATING INTERNSHIP AT THE LANE HOSPITAL, SAN FRANCISCO

A. Medicine
  1. Enemas—colonic flushes—proctoclysis.
    Thoracentesis.
    Intravenous injections
    Transfusions.
    Removing stomach contents, washing stomach.
    Laboratory work
    Vaccinations
  2. Neurology and psychiatry:
    Nasal feeding
    Packs
    Lumbar puncture
    Intraspinal treatments
  3. Pediatrics:
    Technic of nasal and mouth gavage and lavage
    Intramuscular injections
    Intravenous injections
    Intraperitoneal injections
    Spinal punctures
    Skin tests—tuberculin and Schick and protein test.
    Hypodermoclysis.
    Bladder catheterization of infants and children.
    Infant feeding—normal and pathologic.
B. Surgery:
  1. Minor surgery:
    Boils
    Carbuncles.
    Sebaceous cysts.
    Felons.
    Paronychiae.
    Fractures (under supervision).
    Herniotomy.
    Appendectomy.
    Hemorrhoidectomy.
    Anesthetics.
  2. Orthopedics:
    Plaster dressings.
    Splints
    Physiotherapy.
    Heat.
      Baking
    Electricity.
      Galvanism
      Faradism
      Sinusoidal current.
      High frequency.
      Static.
    Hydrotherapy.
      Douche—the Scotch douche.
      Whirlpool baths
      Contrast baths.
      Local compresses
  3. Genito urinary
    Treatment of acute gonorrheal urethritis.
    Treatment of chronic urethritis.
    Anterior and posterior urethral and bladder.
    Irrigations, passing sounds, prostatic massage.
    Urethral calibration.
    Passing catheters.
    Adult circumcision.
  4. Nose and throat.
    Diagnostic puncture and washing antrum.
    Control of nasal hemorrhage
    Tonsillectomy.
    Adenoidectomy
    Paracentesis of membrana tympani.
  5. Eye:
    Treatment of conjunctivitis.
    Treatment of trachoma
    Treatment of glaucoma
    Treatment of iridocyclitis
    Treatment of chalazion
  6. Gynecology and obstetrics:
    Deliveries
    Perineorrhaphies.
    Trachelorrhaphies
    Episiotomies.
    Low forceps.
    Circumcision of infants.
    Curettages
    Closures
    Fitting pessaries.
    Cauterization of Skene's glands.
    Cauterization of cervices.
    Patency test of tubes.
    Packing a uterus for bleeding.
    Anesthetics (obstetric gas).
    Laparotomies—incisions.
    Appendectomy.

The foregoing outline of procedures and the sample card are published, not as standards for universal adoption, but because it is believed that they are suggestive. Others who have worked out plans that they are using are invited to send in their suggestions to the Council on Medical Education and Hospitals.

REPORT ON CLINICAL LABORATORY SERVICE IN THE UNITED STATES

A. PRELIMINARY STEPS[1]

At the San Francisco session of the American Medical Association, June, 1923, the House of Delegates referred to the Bureau of Legal Medicine and Legislation, with power to act, a resolution authorizing the President to appoint a committee to confer with representatives of the American Chemical Society and the American Association of Pathologists and Bacteriologists, and to report one year later with recommendations. Subsequently, the House of Delegates, on the initiative of the Section on Pathology and Physiology, authorized the President to appoint a committee "to undertake an investigation of clinical laboratories with a view to securing a responsible and proper supervision of and adequate equipment and facilities for this branch of medical work." The President referred the matter to the Council on Medical Education and Hospitals, which appointed a special committee consisting of Dr. Louis B. Wilson, chairman, and Drs. Francis C. Wood, E. R. Stitt, C. P. Emerson and D. J. Davis. On the initiative of the Bureau of Legal Medicine and Legislation, the American Chemical Society appointed, as its committee, Dr. Julius Stieglitz, chairman, and Drs. C. L. Parsons and Charles H. LaWall, while the American Association of Pathologists and Bacteriologists appointed Dr. O. T. Schultz, chairman, and Drs. Arthur I. Kendall, D. J. Davis, J. P. Simonds and E. R. LeCount.

The three committees met jointly at the headquarters of the American Medical Association, March 6, 1924, with Dr. W. C. Woodward, secretary of the Bureau of Legal Medicine and Legislation, who was selected to act as chairman, and Dr. Paul N. Leech, director of the chemical laboratory, who acted as secretary without vote.

After a full discussion of those aspects of laboratory control of interest to the medical profession and to nonmedical men belonging to other professional groups, the joint committee defined the term "clinical laboratory," as used by the committee, as "an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods for the purpose of ascertaining the presence, progress and source of disease." Also it was the unanimous judgment of the joint committee that:

1. It should be illegal for any person not licensed by law so to do, to assume the responsibility of making the diagnosis or of deciding on the progress or source of disease on the basis of any results of a chemical, pathologic, serologic, bacteriologic, radiologic or microscopic observation or other laboratory examinations undertaken; and where laws do not now restrict diagnosis or the clinical interpretation of laboratory examinations to licensed classes of medical practitioners, laws should be enacted to effect that end.

2. Any law providing for the licensing of professional workers in laboratories devoted to ascertaining the presence, progress or source of disease should provide for the examination of members of each profession by competent authorities belonging to the same profession.

3. As long as an organization or individual engaged in examinations to ascertain the presence, source or progress of disease refrains from all diagnostic and prognostic interpretation of the results of such laboratory tests as provided for in paragraph 1, any effort to force such organization or individual to place itself under the direction of a representative of any other profession is to be deprecated.

4. The American Chemical Society, the American Medical Association and the American Association of Pathologists and Bacteriologists should cooperate to establish the principles enumerated in the foregoing resolution whenever legislation in this field may be proposed, and the cooperation of other national bodies should be solicited.

5. Clinical laboratories should be standardized in accordance with the principles laid down in the preceding paragraphs, and legislation should be enacted to insure competent personnel and suitable equipment.

Further, the joint committee decided that it was the sole province of the committee appointed by the American Medical Association to undertake the contemplated survey of clinical laboratories.

The report of the joint committee was approved by the council of the American Chemical Society and the council of the American Association of Pathologists and Bacteriologists, and on June 11, 1924, it was approved by the House of Delegates of the American Medical Association at the Chicago session. At the same session the committee of the American Medical Association, having been assigned the duty of making the survey, passed on to the Council on Medical Education and Hospitals the duty of making the survey, the replies to which were to be "properly analyzed and be made a part of the criteria for determining the standard of any list of approved laboratories, the making or publication of which the Council may recommend." The committee further recommended to the Council on Medical Education and Hospitals certain questions to be included in the survey, and those questions with others were incorporated in a brief but comprehensive questionnaire, which was drafted and submitted for suggestions to each member of the three committees named above and also to representatives of the American Association of Clinical Pathologists. With their additional questions and suggestions the questionnaire[2] was completed.

B. COOPERATION AND RESPONSE OF LABORATORIES

It also became apparent that it was advisable to confine the survey for the present to the laboratories that make a business of doing clinical work for physicians, omitting the hospital laboratories, of which there are 3,939, the public health laboratories, and the roentgen-ray and other highly specialized laboratories.

A personal letter explaining the origin and purpose of the survey was written to each of the 1,403 laboratories and concerns that were supposed to be laboratories, each letter accompanied by a questionnaire and a stamped return envelop. All that failed to answer were followed up at least twice with personally signed letters, and special appeals were also sent to them by various individuals and organizations which cooperated to secure as complete a return of the questionnaire as possible.

The Council received from the 1,403 laboratories on the mailing list a total of 1,080 replies. Eliminating nonclinical laboratories from among the 1,080, we have remaining 618 that do clinical work for physicians. Of these, there were 314 regular commercial clinical laboratories that answered practically all the questions, and those 314 complete reports were made the basis of the tabulation and of the report which follows. The incomplete reports, while not tabulated, nevertheless were useful for suggestions and data which they contained.

The greatest number of reports received from any one state was 55 from New York. Other states were as follows: Illinois, 32; California, 25; Texas, 21; Ohio, 16; Missouri, 14; Pennsylvania, 12. Among the 314 laboratories sending in complete reports, 198 are owned by individuals, 60 by partnership, and 56 are corporations. New York State reported 37 individually owned, 8 partnerships, and 10 corporations.

The answers regarding equipment were quite full, but probably the best idea of the equipment is gained from the types and amount of work that is done rather than the direct statements of the laboratories regarding their equipment (tables 1 and 2). From their reports on the kind and amount of work done, we gather the following summary regarding equipment:

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[1] The report of the preliminary steps, including reports of committees, is found in appendix A.

[2] The full text of the questionnaire is given in appendix B.

Number of Laboratories	Equipped For
117	Tissue pathology
243	Clinical pathology
285	Serologic work
296	Blood chemistry
300	Bacteriology
118	Research
86	Roentgen-ray diagnosis
45	Roentgen-ray therapy

DIRECTORS AND OTHER PERSONNEL

Under the heading of directors and other personnel, the 314 laboratories reported a total of 338 directors, of whom 265 have the M.D. degree, forty-nine have other degrees but not M.D., and twenty-four have no degree (table 1). Answers regarding personnel other than the directors accounted for a total of 774 persons, and among this subsidiary personnel were 155 physicians and 619 others.

Table 1.—*Organization, Equipment and Personnel of Clinical Laboratories*

	Organization			Equipment for								Directors			Assistants	
	Individual	Partnership	Corporation	Tissue Pathology	Clinical Pathology	Serologic	Blood Chemistry	Bacteriology	Research	Roentgen-Ray Diagnosis	Roentgen-Ray Therapy	M.D.'s	Other Degrees	No Degrees	M.D.'s	All Others
Alabama	2	..	..	2	2	2	2	2	1	1	1	1	..	1	..	1
Arizona	1	1	..	2	2	2	2	2	..	1	1	3	..	..	..	14
Arkansas	6	4	..	9	9	10	9	10	..	6	3	10	2	..	10	19
California	11	9	5	18	22	23	24	23	14	6	5	18	4	4	8	84
Colorado	1	1	1	2	3	2	2	2	2	1	..	4	..	..	5	7
Connecticut	..	..	1	..	..	..	1	1	..	1	..	1	..	..	..	3
Delaware	1	..	..	..	..	..	1	1	..	..	..	1	..	..	..	1
Florida	..	..	1	1	1	1	1	1	..	1	1	1	..	..	2	4
Georgia	2	1	1	3	3	3	3	2	1	3	2	4	..	..	4	8
Idaho	1	..	..	..	1	1	1	1	..	..	..	..	1	..	..	..
Illinois	20	3	9	18	24	28	27	30	9	9	3	30	2	4	18	58
Indiana	3	1	2	6	6	6	6	6	2	3	3	6	..	..	2	5
Iowa	2	1	1	2	3	2	4	4	..	..	..	..	4	..	..	3
Kansas	4	2	1	2	7	6	6	6	3	3	1	9	1	1	..	11
Kentucky	3	1	..	1	1	1	4	2	..	4	1	5	..	..	..	7
Louisiana	1	2	..	3	3	3	3	3	1	..	..	4	..	..	2	8
Maine	1	..	..	1	1	1	1	1	1	..	..	1	..	..	..	1
Maryland	6	1	..	..	4	7	7	6	2	..	..	9	..	..	2	10
Massachusetts	3	1	1	3	5	4	4	5	1	2	2	6	..	..	1	13
Michigan	6	..	4	4	7	9	9	10	2	1	1	9	1	..	5	20
Minnesota	2	3	2	4	7	7	7	7	4	5	3	6	1	..	3	17
Mississippi	*1*	*2*	..	*2*	*3*	*3*	*3*	*3*	*1*	*2*	..	*4*	..	..	*2*	*6*
Missouri	11	1	2	3	13	14	12	14	4	5	2	13	..	1	3	32
Montana	..	1	..	..	1	1	1	1	1	1	1	1	..	..	1	3
Nebraska	1	1	2	3	4	4	4	3	8	2	1	6	..	..	7	7
Nevada	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	7	..	..	4	6	6	6	7	4	..	..	3	4	..	3	6
New Mexico	2	..	..	..	1	1	2	2	1	1	1	2	..	..	..	3
New York	37	8	10	15	41	52	55	53	26	6	4	38	15	3	22	101
North Carolina	..	..	1	..	1	1	1	1	1	1	..	1	..	..	..	4
North Dakota	..	..	1	1	1	1	1	1	1	1	1	1	..	..	2	4
Ohio	11	2	3	3	14	15	14	16	5	2	1	14	2	..	5	24
Oklahoma	5	2	..	..	5	6	7	7	1	2	..	6	..	1	2	10
Oregon	3	1	..	1	2	4	4	4	3	..	..	2	..	3	1	15
Pennsylvania	12	..	..	..	4	11	12	12	4	1	..	5	4	3	2	17
Rhode Island	2	..	..	..	1	2	2	2	..	..	..	1	1	..	..	2
South Carolina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Dakota	..	1	..	1	1	1	1	1	..	1	1	1	..	..	..	3
Tennessee	6	..	..	..	4	6	6	6	2	1	..	6	..	..	1	5
Texas	18	3	..	2	17	21	20	21	8	10	4	20	2	..	11	44
Utah	1	1	1	1	3	3	3	3	3	..	..	2	1	..	2	8
Vermont	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Virginia	1	..	1	..	..	1	2	2	1	..	..	1	..	1	2	2
Washington	2	5	2	2	7	9	9	9	4	..	..	5	3	1	4	18
West Virginia	1	..	..	..	..	1	1	1	0	..	..	..	1	..	..	2
Wisconsin	1	1	4	2	5	4	6	6	2	3	2	5	..	1	23	9
Wyoming	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	198	60	56	117	243	285	296	300	118	86	45	265	49	24	155	619

KINDS AND AMOUNT OF WORK DONE

The kind or type of work and the amount done was reported *in terms of the main kinds of work commonly done in the* average complete clinical laboratory, and are shown in greater detail in table 2. The total number of tests accounted for by the 314 laboratories is 2,115,016 annually, distributed as follows:

Blood	238,873
Feces	43,993
Gastric	29,001
Spinal fluid	18,673
Sputum	81,017
Urine	843,924
Vaccines	23,054
Necropsies	2,319
Bacteriologic	201,842
Serologic	68,515
Pathologic	58,185
Blood chemistry	64,311
Basal metabolism	17,295
Electrocardiograph	2,182
Wassermann	323,589
Sensitization tests	20,459
Others	77,784
Total, 314 laboratories	2,115,016

Average, 6,736 per laboratory.

QUESTIONS RELATING TO TREATMENT AND DIAGNOSIS

In answer to the question, "Does the laboratory give any *treatments?" 125 laboratories said that they do give treatments* and 189 that they do not give treatments. As to the kinds of treatments, 48 answered they give intravenous treatments; 38, vaccine; 37, roentgen ray. Still other kinds of treatments are given by 43 laboratories.

The question "What are the rules relating to diagnosis and treatment?" was intentionally so worded as to make it impossible to answer with "yes" or "no" and to draw out original statements about their policies regarding diagnosis and treatment. This question was quite freely answered, and while the replies do not admit of tabulation, the following are characteristic:

> All reports sent direct to physicians in writing.
>
> Diagnosis is given only to physician referring the case. Treatment only of cases referred by physicians, and dosage carefully measured with Furstenau intensimeter.
>
> No diagnoses given except when the reports of the findings constitute a diagnosis.
>
> Interpretation of the results of examination is left to the physician in charge of the case.
>
> Referred back to physician.
>
> Reports sent direct to the doctor in charge of the case.
>
> In some cases we suggest types of treatment.

Very similar to the question about rules relating to diagnosis and treatment are the questions: "What supervision is there over the diagnoses and treatments?" and "Is diagnosis or treatment ever made by persons not licensed to practice médicine and not working under the immediate supervision of a licensed physician?" It was stated by four laboratories that diagnoses are made by unlicensed persons who were not supervised by a licensed physician, and by 310 laboratories that such diagnoses are not made.

Coming to the question as to what contract work is done, (*a*) for medical institutions, and (*b*) for nonmedical organizations, sixty laboratories do contract work for medical institutions and twenty-nine do contract work for nonmedical institutions; also twenty-nine stated that they do contract work for physicians. The terms of the contract were given in most of the cases, but they are not reducible to a statistical report.

RESEARCH WORK

The questionnaire asks whether the members of the staff of the laboratory are doing research work, and they are asked to state briefly the nature of this work. One hundred and thirty-six laboratories answered that research work is being carried on. Animal experimentation is being carried on in 111 laboratories.

The laboratories whose staff publish scientific papers reported that 305 such papers were put out last year.

PUBLICITY

Many of the laboratories, as requested, sent in the names of the papers, journals and periodicals in which advertisements were carried last year, and also mentioned other means of publicity that were employed. They also sent in copies of their fee lists, form letters, blotters, prospectuses, and clippings of advertisements carried during the year. The medical journals are used by 169, while only nineteen stated that they advertise in nonmedical papers. Form letters are employed by seventy laboratories.

TABLE 2.—*Kinds and Number of Tests Made by Clinical Laboratories During the Past Fiscal Year*

	Blood	Feces	Gastric	Spinal Fluid	Sputum	Urine	Vaccines	Necropsies	Bacteriologic	Serologic	Pathologic	Blood Chemistry	Basal Metabolism	Electrocardiograph	Wassermann	Sensitization Tests	Others
Alabama.......	3,100	135	12	60	3,600	1,525	200	15	1,075	200	200	50	...	475	1,000	625	5,500
Arizona.........	3,209	362	185	171	2,585	11,134	315	35	3,360	410	671	352	151	...	4.927	50	2,525
Arkansas.......	13,020	2,024	1,081	281	3,400	12,279	631	33	6,565	2,724	708	781	718	...	3 738	200	2,715
California......	22,432	4,625	736	1,790	3,809	45,385	1,306	377	13,379	5,928	9,385	4,583	2,084	600	35,266	387	7,860
Colorado.......	3,400	55	70	415	900	8,400	300	35	3,250	30	1,500	300	190	...	1,800	80	.....
Connecticut....	562	68	15	2	135	915	5	...	925	.....	.....	204	13	...	332	700	270
Delaware.......	150	50	200	.....	100	2,000	25	...	200	.....	.....	.....	...	...	.....	...	.....
Florida.........	822	83	65	11	61	1,273	50	...	279	64	81	206	12	...	452	...	1,600
Georgia.........	5,150	1,150	200	250	800	5,650	700	...	1,200	3,500	800	1,050	900	...	3,150	100	300
Idaho...........	500	20	10	10	25	1,000	10	...	1,000	50	.....	10	.....	...	500	20	.....
Illinois..........	9,204	3,869	2,151	1,479	3,415	34,507	1,485	124	10,014	6,023	2,791	2,590	945	...	26,766	560	11,280
Indiana.........	1,400	945	705	160	1,800	6,100	775	50	3,000	1,150	750	450	570	...	6,800	110	200
Iowa............	2,750	423	237	81	176	9,325	110	15	2,937	400	125	591	102	...	300	100	.....
Kansas.........	6,750	400	315	530	820	13,000	330	55	4,800	260	2,070	2,175	800	100	6,150	150	1,000
Kentucky.......	3,994	285	847	34	200	8,614	275	63	585	.....	2,437	2,020	652	...	1,636	160	1,125
Louisiana......	3,781	623	136	173	397	6,909	670	4	2,420	551	896	948	217	...	2,691	113	1,465
Maine..........	400	100	30	90	160	530	70	...	200	.....	200	120	80	...	600	24	.....
Maryland.......	1,425	424	364	234	335	2,215	40	325	506	150	100	667	150	200	1,849	10	48
Massachusetts..	917	330	79	49	231	8,778	442	...	1,242	431	221	331	30	...	861	104	291
Michigan.......	2,771	548	425	419	5,150	8,303	469	116	3,918	6,861	2,389	626	224	...	9,323	62	1,888
Minnesota......	13,100	1,210	3,000	225	1,540	35,780	320	30	7,800	1,125	1,755	3,255	3,550	...	4,860	260	1,650
Mississippi......	4,453	1,301	254	97	697	11,677	187	7	2,108	1,071	1,016	745	146	7	3,208	83	51
Missouri........	12,292	893	914	1,086	1,579	19,095	1,300	146	6,087	9,097	5,055	3,561	520	...	25,772	325	3,719
Montana.......	5,000	50	12	75	300	5,000	500	12	1,500	100	500	300	75	...	1,500	300	100
Nebraska.......	6,900	600	560	260	355	12,000	185	32	1,165	150	2,250	550	75	...	5,150	2,530	.....
Nevada.........	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	...	.....	.....	.....
New Hampshire	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	...	.....	.....	.....
New Jersey.....	1,226	151	79	91	326	16,288	204	...	2,698	168	112	1,376	7	...	1,209	47	516
New Mexico.....	474	47	100	67	386	1,500	112	8	965	60	175	191	95	...	1,500	115	.....
New York.......	31,469	6,994	5,903	3,205	19,941	327,314	5,761	211	48,227	6,802	7,401	18,833	1,104	100	63,105	845	9.446
North Carolina	1,350	19	.....	40	22	3,651	37	12	2,093	265	175	205	.....	...	1,469	355	1,205
North Dakota..	300	50	400	50	175	9,000	25	...	200	.....	100	700	300	...	200	10	.....
Ohio............	16.349	5,519	2,582	1,166	3,211	58,666	1,089	69	6,083	3,885	3,186	5,350	881	300	25,008	370	13,515
Oklahoma......	6,350	750	1,119	617	2,019	12,480	305	2	2,975	370	685	555	49	...	7,480	57	3,100
Oregon.........	6,175	4,305	700	1,400	13,150	35,175	600	20	22,200	2,800	2,000	900	500	...	27,500	1,700	.....
Pennsylvania...	4,159	768	251	140	662	11,243	406	24	3,619	474	538	988	4	...	2,370	30	626
Rhode Island...	254	47	24	41	29	520	43	...	38	16	6	96	10	...	83	.....	53
South Carolina	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	...	.....	.....	.....
South Dakota..	3,400	40	75	60	100	7,000	30	38	360	160	125	130	500	...	600	.....	.....
Tennessee.......	3,482	890	491	855	601	9,772	167	42	1,723	1,776	1,432	824	267	...	4,460	132	.....
Texas...........	21,556	2,512	2,355	1,633	4,425	35,488	1,221	50	9,200	7,551	2,151	2,294	699	...	17,599	1,481	4,136
Utah............	1,434	89	158	233	270	1,214	192	67	.....	.....	.....	.....	.....	...	.....	.....	.....
Vermont........	.....	.....	.....	.....	.....	.....	.....	...	500	.....	.....	2,025	250	400	2,000	.....	106
Virginia........	1,860	135	1,025	55	125	2,500	175	...	3,699	1,768	269	376	55	...	3,438	2,261	174
Washington....	8,534	628	629	773	2,444	31,180	1,792	127	11,084	842	3,422	2,353	292	...	14,840	5,953	820
West Virginia..	60	10	5	15	25	500	50	...	5,000	400	.....	25	.....	...	400	.....	500
Wisconsin......	2,939	466	412	250	533	9,039	145	175	1,573	.....	415	425	75	...	1,607	50	.....
Wyoming.......	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	...	.....	.....	.....
Totals........	238,873	43,993	29,001	18,673	81,017	813,924	23,054	2,319	201,842	68,515	58,185	64,311	17,295	2,182	323,589	20,459	77,784

On the question as to whether the laboratory conducts a keep-well service for the laity, twenty-seven answered that they do conduct such a service and 287 that they do not.

SOURCE OF PATRONAGE

It was reported by 242 of the 314 laboratories that all their work is received through physicians, while seventy-two stated that they received work both through physicians and direct from patients. The reports on tests are mailed direct to the physicians only, by 279 laboratories and thirty-five say that they do not mail all reports direct to physicians.

Ninety-eight laboratories report that physicians connected with the laboratory have a medical practice of their own, and 217 laboratories answered the same question in the negative.

RELATION WITH OTHER INSTITUTIONS

Two hundred and twenty-six laboratories do work for hospitals, and sixty-eight of them do work for other institutions, such as clinics. One hundred and six do some public health work for city, state or federal government.

C. PREPARATION OF A SET OF STANDARDS

As soon as the tabulation of questionnaires was completed, a digest was prepared which included the tables and other data contained in this article. A preliminary draft of the "Essentials of an Approved Clinical Laboratory" * was made, the report of the joint committee being used as a basis, containing also ideas growing out of the survey and the resulting correspondence.

Copies of the digest of survey and of the preliminary draft of the "Essentials" were submitted to all members of committees and representatives of all agencies participating in the survey and to representatives of interested organizations and members of the Council on Medical Education and Hospitals, for their criticism and suggestions. Through correspondence and conferences with the parties concerned, all the various principles and standards suggested have been fully discussed, and the principles and standards set forth in the accompanying paragraphs under the heading of "Essentials of an Approved Clinical Laboratory" have been agreed on.

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* The text of the preliminary draft of the "Essentials" will be found on pages 1068 and 1069.

ESSENTIALS OF AN APPROVED CLINICAL LABORATORY

DEFINITION

A clinical pathologic laboratory is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods, for the purpose of ascertaining the presence, nature, source and progress of disease in the human body.

Only those clinical laboratories in which the space, equipment, finances, management, personnel and records are such as will insure honest, efficient and accurate work may expect to be listed as approved.

LOCATION, HOUSING AND EQUIPMENT

The housing and light should be adequate for the proper functioning of the laboratory. The equipment should be sufficient to permit all essential technical procedures to be properly carried out.

SCOPE

A general clinical laboratory should be prepared to render the following services:

(*a*) Hematologic: Blood counts, blood grouping and coagulation tests, and tests for blood parasites in general.

(*b*) Biochemical: Qualitative and quantitative analyses of urine, blood, gastric contents, body fluids, feces, intestinal contents and cerebrospinal fluids; renal and hepatic function tests and basal metabolism.

(*c*) Bacteriologic: Bacteriologic diagnoses; preparation of vaccines and blood and body fluid cultures.

(*d*) Serologic: Serologic diagnoses; agglutination, complement fixation, or precipitin and lysis tests.

(*e*) Pathologic: Preparation of paraffin, celloidin or frozen sections, microscopic and gross pathologic specimens and necropsies.

(*f*) Parasitologic: Protozoal and zoological diagnoses.

PERSONNEL

(*a*) *The Director.*—The director of an approved clinical laboratory in which diagnoses and prognoses are made must be a graduate of an acceptable medical college, who is in reputable standing as a physician, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestations of disease in the patient, and knows laboratory work sufficiently well to direct and supervise technical procedures and to recognize the clinical value of laboratory reports. In brief, the director of a clinical laboratory should be sufficiently qualified to receive the same recognition as other specialists in medicine. He should be on full time or have definite hours of attendance sufficient to insure proper supervision of the laboratory work.

In laboratories in which clinical tests are carried out without any attempt to make diagnostic or prognostic interpretations and laboratories in which the tests are made for physicians who will make their own diagnoses and prognoses, the director may be a doctor of public health or a doctor of philosophy who has specialized in bacteriology, pathology,

Table 3.—*Treatments, Diagnoses and Contract Work by Clinical Laboratories*

	Laboratories Giving Treatments		Kinds of Treatments				Diagnosis by Unlicensed Persons		Laboratories Doing Contract Work				Contract Work Done for Physicians	
									For Medical Concerns		For Nonmedical Concerns			
	Yes	No	Intravenous	Vaccine	Roentgen Ray	Others	Yes	No	Yes	No	Yes	No	Yes	No
Alabama	1	1	..	..	..	1	..	2	..	2	..	2	..	2
Arizona	2	..	1	..	1	..	..	2	1	1	..	2	1	1
Arkansas	5	5	..	..	4	1	..	10	1	9	1	9	1	9
California	7	18	2	2	2	5	2	23	6	19	2	23	3	22
Colorado	3	..	1	..	1	1	..	3	1	2	..	3	..	3
Connecticut	1	..	..	1	..	1	..	1	..	1	..	1	..	1
Delaware	..	1	..	..	..	..	..	1	..	1	..	1	..	1
Florida	1	..	..	1	1	1	..	1	..	1	..	1	..	1
Georgia	4	..	..	..	..	4	..	4	1	3	..	4	1	8
Idaho	1	..	1	1	..	..	.	1	1	..	..	1	1	..
Illinois	13	19	9	3	3	1	..	32	7	25	4	28	3	29
Indiana	4	2	1	1	2	2	..	6	1	5	..	6	2	4
Iowa	..	4	..	..	..	..	..	4	..	4	..	4	..	4
Kansas	1	6	1	1	..	1	..	7	2	5	1	6	..	7
Kentucky	2	2	..	1	1	..	..	4	1	3	..	4	..	4
Louisiana	3	..	..	1	..	3	..	3	1	2	1	2	..	3
Maine	..	1	..	..	..	..	..	1	..	1	..	1	..	1
Maryland	4	3	4	1	1	2	..	7	..	7	..	7	..	7
Massachusetts	3	2	..	2	..	2	..	5	..	5	..	5	..	5
Michigan	4	6	4	1	1	..	..	10	5	5	1	9	..	10
Minnesota	3	4	..	..	3	1	..	7	..	7	1	6	..	7
Mississippi	1	2	..	1	..	..	..	3	1	2	..	3	..	3
Missouri	12	2	5	2	2	3	..	14	..	14	3	11	..	14
Montana	1	..	1	..	1	..	..	1	1	..	..	1	..	1
Nebraska	3	1	..	..	1	1	..	4	1	3	..	4	1	8
Nevada	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Hampshire	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Jersey	1	6	1	..	..	..	..	7	..	7	..	7	..	7
New Mexico	1	1	1	..	..	..	..	2	..	2	..	2	..	2
New York	9	46	4	2	3	1	..	55	4	51	3	52	1	54
North Carolina	1	..	..	..	..	1	..	1	..	1	..	1	..	1
North Dakota	1	..	..	..	1	..	..	1	..	1	..	1	..	1
Ohio	8	8	3	4	1	3	1	15	2	14	3	13	4	12
Oklahoma	4	3	1	2	1	1	..	7	2	5	..	7	1	6
Oregon	1	3	..	1	..	..	..	4	..	4	..	4	1	3
Pennsylvania	1	11	1	1	..	1	..	12	1	11	1	11	1	11
Rhode Island	..	2	..	..	..	..	..	2	..	2	..	2	..	2
South Carolina	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Dakota	1	..	..	..	1	..	..	1	..	1	..	1	..	1
Tennessee	1	5	1	1	..	1	..	6	..	6	..	6	..	6
Texas	13	8	3	7	6	4	..	21	10	11	6	15	5	16
Utah	..	3	..	..	..	..	..	3	..	3	..	3	..	3
Vermont	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Virginia	..	2	..	..	..	..	..	2	2	..	..	2	1	1
Washington	2	7	2	1	..	..	1	8	4	5	1	8	..	9
West Virginia	..	1	..	..	..	..	..	1	..	1	..	1	..	1
Wisconsin	2	4	1	..	..	1	..	6	4	2	1	5	2	4
Wyoming	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	125	189	48	38	37	43	4	310	60	254	29	285	29	285

biochemistry or other allied subjects and who must be a person in good standing in his profession. In the latter institutions, however, there shall be also one member of the clinical staff who shall be charged with the duty of assisting physicians in the interpretation of the results of laboratory examinations, and this member of the staff must be a licensed graduate in medicine who has specialized in clinical pathology for at least three years and who is devoting the major part of his time to this work. The name of the director and—where the director is not a physician—of the staff physician also must appear on all reports and printed matter issued by the laboratory.

(*b*) *Assistants.*—The director should have a corps of assistants and technicians, responsible to him, and for whom he is responsible, to carry out promptly, intelligently and accurately the several kinds of service the laboratory offers. All their reports, not only of tissues but also of all bacteriologic, hematologic, biochemical, serologic and pathologic data, should be made to the director.

REPORTS

The approved clinical laboratory should make its reports through the director, if a physician; otherwise, through its staff physician, who should furnish advice concerning these reports and their diagnostic significance solely to the physician in charge of the patient. All blanks for reports and other documents should have the name of the director printed on them, and, if the director is not a physician, of the staff physician also.

RECORDS

Full records of all examinations made by the laboratory, suitably indexed and filed, are essential. Every specimen analyzed in the laboratory should be given a serial number, which should follow that specimen in the records and reports. When the laboratory report concerns a hospital patient, an exact transcript of the laboratory record should be appended to the hospital case record. Each specimen submitted to the laboratory should have appended pertinent clinical data.

LIBRARY

The laboratory should be provided with, or have convenient access to, a library including current scientific books and journals on all the various subjects required in its work.

FEES

There should be no dividing of fees or rebating between the laboratory or its director and any physician, corporate body or group.

TABLE 4.—*Sources of Patronage, Research Work and Advertising Methods of Laboratories*

	Conduct Keep-Well Service for Laity		Work Received Through Physicians or Patients		Report to Physicians Only		Do Physicians of Laboratory Have Medical Practice?		Do Public Health Work		Do Research Work		Animal Experimentation		No. of Papers Published Last Year	Advertise in Papers		Use Form Letters
	Yes	No	Phys.	Both	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		Medical	Non-medical	
Alabama	..	2	1	1	2	..	1	1	..	2	1	1	..	2	..	1	..	..
Arizona	..	2	2	..	2	..	..	2	2	..	2	..	1	1	4	..	..	1
Arkansas	2	8	7	3	10	..	3	7	2	8	4	6	4	6	3	8	..	4
California	1	24	20	5	23	2	3	23	13	12	14	11	15	10	36	15	2	8
Colorado	..	3	3	..	3	..	1	2	1	2	2	1	2	1	6	..	..	1
Connecticut	..	1	1	..	..	1	..	1	1	..	..	1	1	..	..	..	..	..
Delaware	1	..	..	1	..	1	..	1	..	1	1	..	..	1	..	..	..	..
Florida	..	1	1	..	1	..	..	1	1	..	..	1	..	1	2	1	..	..
Georgia	..	4	..	4	3	1	4	..	1	3	1	3	1	3	3	7	..	..
Idaho	..	1	1	..	1	..	..	1	1	..	..	1	..	1	..	..	..	..
Illinois	4	28	29	3	31	1	16	16	10	22	11	21	14	18	9	28	9	14
Indiana	2	4	3	3	5	1	..	6	3	3	2	4	1	5	2	7	..	2
Iowa	..	4	4	..	4	..	1	3	3	1	..	4	1	3	..	3	..	2
Kansas	..	7	5	2	6	1	4	3	3	4	3	4	2	5	20	4	..	3
Kentucky	..	4	1	3	4	..	2	2	1	3	1	3	..	4	11	..	..	1
Louisiana	..	3	2	1	3	..	1	2	2	1	2	1	2	1	4	1	..	1
Maine	..	1	..	1	1	..	..	1	..	1	1	..	..	1	..	..	..	..
Maryland	1	6	5	2	6	1	4	3	1	6	3	4	1	6	5	..	..	..
Massachusetts	1	4	3	2	2	3	3	2	2	3	1	4	2	3	1	..	2	1
Michigan	..	10	8	2	10	..	3	7	5	5	2	8	1	9	3	8	..	3
Minnesota	1	6	7	..	7	..	1	6	1	6	4	3	2	5	2	4	..	2
Mississippi	1	2	2	1	2	1	2	1	1	2	1	2	3	..	3	2	..	..
Missouri	1	13	13	1	13	1	3	11	1	13	4	10	5	9	4	8	..	2
Montana	..	1	1	..	1	..	..	1	1	..	1	..	1	..	..	..	..	..
Nebraska	..	4	2	2	3	1	2	2	1	3	3	1	2	2	17	5	..	1
Nevada	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Hampshire	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Jersey	..	7	6	1	6	1	3	4	4	3	4	3	1	6	1	3	..	2
New Mexico	..	2	2	..	2	..	1	1	1	1	1	1	1	1	..	..	..	..
New York	..	55	48	7	52	3	16	39	9	46	26	29	14	41	17	15	1	11
North Carolina	1	..	1	..	1	..	..	1	1	..	1	..	1	..	3	..	..	..
North Dakota	..	1	1	..	1	..	1	..	..	1	1	..	1	..	..	..	..	..
Ohio	5	11	11	5	13	3	9	7	5	11	7	9	4	12	89	5	..	1
Oklahoma	..	7	2	5	6	1	1	6	2	5	2	5	1	6	2	6	1	1
Oregon	..	4	2	2	3	1	..	4	2	2	3	1	3	1	2	4	1	..
Pennsylvania	1	11	10	2	11	1	3	9	4	8	4	8	6	6	7	6	..	1
Rhode Island	..	2	2	..	1	1	1	1	..	2	..	2	..	2	..	1	..	..
South Carolina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Dakota	1	..	..	1	1	..	..	1	1	..	..	1	..	1	2	..	..	1
Tennessee	1	5	5	1	6	..	..	6	..	6	2	4	2	4	..	..	..	..
Texas	2	19	12	9	12	9	3	18	8	13	9	12	5	16	27	18	3	3
Utah	..	3	3	..	3	..	2	1	..	3	3	..	3	..	2	..	..	1
Vermont	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Virginia	..	2	2	..	2	..	2	..	1	1	1	1	1	1	..	..	..	..
Washington	..	9	7	2	9	..	1	8	7	2	6	3	3	6	18	7	..	1
West Virginia	1	..	1	..	1	..	..	1	1	..	..	1	1	..	..	..	..	1
Wisconsin	..	6	6	..	6	..	1	5	3	3	2	4	3	3	..	2	..	1
Wyoming	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	27	287	242	72	279	35	98	217	106	208	136	178	111	203	305	169	19	70

PUBLICITY

Publicity of an approved clinical laboratory should be in professional good taste and be limited to statements of fact, as the name, address and telephone number of the laboratory; names and titles of the director and other active responsible personnel; fields of work covered; office hours; directions for sending specimens, etc., and should not contain misleading statements or claims of unusual superiority. It should not advocate medical fads nor lay undue stress on the importance of laboratory findings.

Only the names of those rendering regular service to the laboratory should appear on letterheads, or any other form of publicity as being connected with the laboratory.

Advertising matter should be directed only to physicians either through bulletins or through recognized technical journals, and never to the nonprofessional public, as, for example, by announcements in popular journals and per odicals, circulars, pamphlets, telephone lists or other mean

PROVISIONAL LIST OF CLINICAL LABORATORIES

The following list of laboratories is compiled from the large number reported which, so far as the questionnaires show, fulfil the "Essentials of an Approved Clinical Laboratory"* as prepared by the committee Undoubtedly, many laboratories that would prove acceptable if questionnaires were answered would come under this list, and at the same time there are some on the list that, on further revision, may have to be omitted

ALABAMA

Dr Andrew L Glaze's Laboratory of Cutaneous and Clinical Medicine, 503 Empire Building, Birmingham

ARIZONA

Goss Laboratory, H L Goss, M D, Director, 125 W Monroe Street, Phoenix

Pathological Laboratory, Warner Watkins, M D, and Harlan P Mills M D Directors 320 Goodrich Building Phoenix

Tucson Clinical Laboratory, P B Newcomb M D, Director, 20 E Ochoa Street, Tucson

ARKANSAS

Cooper Clinic, Pathological and X Ray Laboratory, A A Blair, M D, Director Cooper Clinic Building, Fort Smith

Holt Clinic, X Ray and Pathological Laboratory, John H Harvey, M D, Director, 1018½ Garrison Fort Smith

The Central Clinical and Pathological Laboratories, S I Hoge, M D, and D T Hyatt, M D Directors 322 323 Hall Building, Little Rock.

McGill Clinic, A G McGill, M D, Director, 219 Exchange Bank Building Little Rock

Drs Rhinehart and Rhinehart's Laboratory, D A Rhinehart, M D, Director, 503 Donaghey Building Little Rock

Dr W G Pittman's Laboratories 216 Citizens Bank Building, Pine Bluff

CALIFORNIA

Dr John N Chain's Clinical Laboratory 350 'F' Street, Eureka

Laboratory of Drs W V Brem, A H Zeiler and R W Hammack 1003 Pacific Mutual Building, Los Angeles

Drs H E Butka and O B Pratt's Clinical Laboratory, 1052 West Sixth Street, Los Angeles

Grover and Campbell Laboratory, Arthur I Grover M D, Director, 405 S Hill Street, Los Angeles

The Hollywood Biological and X Ray Laboratories Albert T Martin, M D Director, 6331 Hollywood Boulevard Los Angeles

Hollywood Clinical Laboratory, Ernest H Ruediger, M D, Director, 1680 N Vine Street, Los Angeles

Moore White Clinic, Robert Hill, M D, Director, 511 S Bonnie Brae, Los Angeles

The Western Laboratories, Gertrude Moore, M D Director, 2404 Broadway, Oakland

Pasadena Clinical Laboratory, Gustav F Ruediger, M D, Director, Citizens Savings Bank Building Pasadena

Dr Rawson Pickard's Clinical Laboratory, 520 East Street San Diego

Oliver Knapp Clinical Laboratories Harry R Oliver, M D, Director 870 Market Street, San Francisco

Drs B C N O'Reilly and J Hugh Wheeler's Laboratory, 1001 1003 Flood Building San Francisco

Pacific Wassermann Laboratories, Z F Bohn M D Director, 928 Flood Building, San Francisco

Practitioners Laboratories, Ernst A Victors, M D, Director, 133 Geary Street, San Francisco

Dr Harry Spiro's Laboratory Flood Building San Francisco

Dr C D Holliger's X Ray and Pathological Laboratories Commercial and Savings Bank Building, Stockton

COLORADO

Drs W Burdick and C H Elliott's Laboratory, Metropolitan Building Denver

Clinical Laboratory Philip Hillkowitz, M D, and Harry Gauss, M D, Directors 236 Metropolitan Building Denver

FLORIDA

The Miami Diagnostic Laboratories, I C Youmans, M D, Director, 701 Professional Building Miami

ILLINOIS

Chicago Laboratory, Ralph W Webster, M D, Director, 25 E Washington Street, Chicago

Lincoln Gardner Laboratory Mary C Lincoln M D and Stella M Gardner, M D, Directors 30 N Michigan Avenue Chicago

Dr M M. Matthies Laboratory, Inc., 5 N Wabash Avenue, Chicago

Medical Research Laboratories, B Gruskin, M D, Director, 25 E Washington Street, Chicago

The Murphy Laboratories L J Murphy, M D, Director, 4750 Sheridan Road, Chicago

National Pathological Laboratories Inc, J J Moore M D, Director, 5 S Wabash Avenue, Chicago

Dr. Homer K Nicoll's Laboratory, 122 S Michigan Avenue, Chicago

Quincy Clinical Laboratory, Frank Cohen, M D, Director, Majestic Building, Quincy

Rockford Laboratories for Medical Research John R. Porter, M D, Director, 418 William Brown Building, Rockford

INDIANA

Fort Wayne Medical Laboratory, B W Rhamy M D, Director, 327 W Berry Street, Fort Wayne

The Physicians Laboratory Inc, August O Truelove, M D, Director, 434 W Berry Street, Fort Wayne

Indianapolis X-Ray and Clinical Laboratories W E Pennington, M D, and W. H Foreman M D, Directors 604 Medical Arts Building, Indianapolis

The Laboratory for Clinical Diagnosis, Harry K. Langdon, M D, Director, 404 Hume Mansur Building, Indianapolis

KANSAS

Dr J L Lattimore's Laboratories, 618 Mills Building, Topeka

KENTUCKY

Dr C C Turner's Laboratory, John Lewis Building, Glasgow

Lexington Clinical Laboratory, L S Maxwell, M D, Director, 190 N Upper Street, Lexington

LOUISIANA

Dr L A Hebert's Clinical Laboratory, Pujo Street Lake Charles

The Biochemical Laboratory, Upton Giles M D, Director, 3501 Prytania Street New Orleans

Drs F G Ellis and W. P. Butler's Laboratory, 941 Margaret Place, Shreveport

MAINE

Dr Mortimer Warren's Laboratory, 131 State Street, Portland

MARYLAND

Clinical Laboratory of Dr Howard J Maldeis, 605 Park Avenue, Baltimore

Clinical Laboratory of Dr Charles F Simon, 1734 Linden Avenue, Baltimore

Drs Paul W Clough and Mildred C Clough's Laboratory, 24 E Eager Street Baltimore

Dr Henry T Collenberg's Laboratory, 904 N Charles Street Baltimore

MASSACHUSETTS

Clinical Laboratory, Francis L. Burnett, M D, Director, 205 Beacon Street Boston

Physicians Clinical Laboratory, J Edwin Oslin, M D, Director, 30 Huntingdon Avenue Boston

Physicians Laboratory, A S Hudson M D, Director, 93 Massachusetts Avenue Boston

New England Laboratories Inc, George L Schadt, M D, Director, 121 Chestnut Street, Springfield

MICHIGAN

Detroit Clinical Laboratory, W L Brosius, M D, Director, 2033 Park Avenue Detroit

National Pathological Laboratories Inc, F J Eakins M D, Director, 312 David Whitney Building Detroit

Owen Clinical Laboratory R G Owen M D, Director, 709 711 Stroh Building, Detroit

Grand Rapids Clinical Laboratory, G L Bond, M D, Director, 201 Metz Building Grand Rapids

Dr James S Brotherhood's Laboratory Metz Building, Grand Rapids

Central Laboratory, O W Lohr, M D, Director, 302 S Jefferson Avenue, Saginaw

MINNESOTA

Murphy Laboratories, Ignatius J Murphy, M D, Director 812 Besse Building Minneapolis

MISSISSIPPI

The McDill Laboratories, L B Neal M D, and J E McDill, M D, Directors Lamar Life Building Jackson

Pathological Laboratories, W W Robinson, M D, Director Court and Broad Streets, West Point

MISSOURI

Duncan Laboratories, Ralph E Duncan, M.D, Director, Argyle Building Kansas City

Laboratory of Clinical Pathology, Frank J Hall, M D, Director, 509 Wirthman Building Kansas City

Dr Murray C Stone's Laboratory, 615 Woodruff Building Springfield

Dr Rudolph Buhman's Private Laboratory, 537 N Grand Boulevard, St Louis

Gradwohl Laboratories, R B H Gradwohl, M D, Director, 3514 Lucas Avenue, St Louis

Dr D I Harris Laboratory Metropolitan Building St Louis.

Dr George Ives' Clinical Laboratory, University Club Building, St. Louis

Dr C L Klenk's Pathological and Bacteriological Laboratory, 420 422 Metropolitan Building, St Louis

Lister Pathological Laboratory, A M Ecklund, M D Director, 4500 Olive Street St Louis

National Pathological Laboratory, R L Thompson, M D, Director, University Club Building, St Louis

MONTANA

The Walker Laboratories, Thomas F Walker M D, Director Stanton Bank Building, Great Falls

NEBRASKA

Laboratory of Clinical Pathology Michael G Wohl, M D Director, 517 518 City National Bank Building Omaha

Nebraska Laboratory of Clinical Pathology, E T Manning M D, Director, 792-796 Brandeis Theatre Building Omaha

NEW JERSEY

Cline Laboratory, B F Cline, M D, Director, 264 Central Avenue, Orange

NEW MEXICO

Dr J R Van Atta's Laboratories, First National Bank Building, Albuquerque

NEW YORK

Bender Hygienic Laboratory, J R Lisa M D, Director, 120 S Lake Street Albany

Kilmer Laboratory of Clinical Pathology George H Fox, M D, Director 21 Park Avenue Binghamton

Biophil Laboratory for Diagnosis and Research, Florence A. Blake, M D Vice President and Treasurer 32 Court Street, Brooklyn

Brooklyn Diagnostic Institute, J Gutman M D, Director 867 St Marks Avenue, Brooklyn

Clinical Laboratory of Dr William Mottrier, Jr, 1219 Dean Street, Brooklyn

Dr Horace Greeley's Laboratory 140 Clinton Street Brooklyn

The Lindsay Laboratories, M E Marten, M D, and J C Knapp, M D Directors, 114 Ashland Place Brooklyn

Buffalo Laboratory for Clinical Diagnosis, A A Thibaudeau M D, Director 23 Irving Place Buffalo

Dr Richard N DeNiord's Laboratory, 482 Franklin Street Buffalo

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* The text of the preliminary draft of the "Essentials" will be found on pages 1068 and 1069

Dr. J. J. Parson's Laboratory, 312 Savings Bank Building, Cortland.

Diagnostic Laboratory, Alfred Bell, M.D., Director, 216 Randall Avenue, Freeport, L. I.

Dr. N. Campbell's Biological and Analytical Laboratory, 424 Fulton Street, Jamaica.

Dr. Lindsley F. Cocheu's Laboratory, 39 W. 67th Street, New York.

Dr. Andrew A. Eggston's Laboratory, 653 Park Avenue, New York.

Dr. Joseph Felsen's Laboratory, 157 West 117th Street, New York.

Harlem X-Ray and Pathological Laboratories, L. M. Suchoff, M.D., Director, 1767 Madison Avenue, New York.

The Harvey Laboratories, Elsie Fox, M.D., Director, 355 E. 149th Street, New York.

Dr. Oliver S. Hillman's Laboratory, 114 East 54th Street, New York.

Dr. J. Koffler's Chemical and Bacteriological Laboratory, 787 Prospect Avenue, New York.

Medical Laboratories, Inc., Byron C. Darling, M.D., Director, 30 E. 40th Street, New York.

Medical Laboratory, Cyrus W. Field, M.D., Director, 126 E. 64th Street, New York.

National Pathological Laboratories, Archibald McNeil, M.D., Director, 18 E. 41st Street, New York.

Neurological Institute, Clinical Laboratory, Oliver S. Hillman, M.D., Director, 149 E. 67th Street, New York.

Physicians Diagnostic Laboratory, Inc., G. L. Rohdenburg, M.D., Director, 34 W. 49th Street, New York.

Dr. Julius Pincus' Pathological Laboratory, 250 West 75th Street, New York.

Dr. Frederic E. Sondern's Clinical Laboratory, 20 W. 55th Street, New York.

Dr. Thomas S. Winslow's Pathological Laboratory, 22 W. 74th Street, New York.

Medical Laboratory of Dr. George W. O'Grady, 35 Chestnut Street, Rochester.

Dr. Herman G. Wahlig's Laboratory, Sea Cliff Avenue, Sea Cliff.

Troy Laboratory, H. W. Carey, M.D., Director, 72 Second Street, Troy.

OHIO

Langdon-Meyer Laboratories, Fletcher Langdon, M.D., Director, 519 Main Street, Cincinnati.

The Cleveland Laboratory, R. G. Schnee, M.D., Director, 655 Erie Street, Cleveland.

Dr. C. L. Cummer's Laborataory, 2417 Prospect Avenue, Cleveland.

Diagnostic Laboratories, A. A. Eisenberg, M.D., Director, 7016 Euclid Avenue, Cleveland.

The Medical Chemical Laboratory, John G. Spenzer, M.D., Director, 646 Rose Building, Cleveland.

Clinical and Pathological Laboratory, J. J. Coons, M.D., Director, 370 East Town Street, Columbus.

Columbus Clinical and Pathological Laboratory, Frank W. Watson, M.D., Director, 328 E. State Street, Columbus.

Private Clinical Laboratory, N. D. Goodhue, M.D., Director, 920 Fidelity Medical Building, Dayton.

Springfield Clinical and Pathological Laboratory, Clarence L. Jones, M.D., Director, 330 Fairbanks Building, Springfield.

Toledo Clinical Laboratories, R. C. Longfellow, M.D., Director, 1611 Twenty-Second Street, Toledo.

Dr. Theodore Zbinden's Clinical Laboratory, 412 Cotton Building, Toledo.

OKLAHOMA

Clinical Laboratory of Dr. Elizabeth Chamberlin, Washington County Memorial Hospital, Bartlesville.

Laboratory of Dr. A. B. Leeds, First National Bank Building, Chickasha.

Medical Arts Laboratory, W. H. Bailey, M.D., Director, 7th Floor Medical Arts Building, Oklahoma City.

Dr. T. A. Hartgraves' Laboratories, 308 Commerce Building, Okmulgee.

Terrell's Laboratories, S. C. Venable, M.D., Director, National Bank of Commerce Building, Tulsa.

OREGON

Dr. H. H. Foskett's Clinical Laboratory, 712 Journal Building, Portland.

Howe and Huntley Laboratories, Calvin S. White, M.D., Director, Medical (Park) Building, Portland.

Dr. Harriet J. Lawrence's Laboratory, 820 Selling Building, Portland.

PENNSYLVANIA

Laboratory of Clinical Medicine, D. de Rivas, M.D., Director, 1833 Chestnut Street, Philadelphia.

Laboratory of Pathology and Bacteriology, Eugene J. Asius, M.D., Director, 1524 Chestnut Street, Philadelphia.

TENNESSEE

Dr. Tolbert C. Crowell's Clinical Laboratories, 432-435 Volunteer Building, Chattanooga.

Dr. R. V. De Pue's Laboratory, 503 W. Church Street, Knoxville.

Dr. J. S. Fleming's Laboratory, Exchange Building, Memphis.

Dr. L. V [illegible] Pathological Laboratories, 1122-1124 Exchange [illegible]

Dr. Her [illegible] and Pathological Laboratories, 319-325 Lamb [illegible]

TEXAS

Dr. G. M. Graham's Clinical Laboratory, 324 Littlefred Building, Austin.

Dr. Wilbur F. Thomson's Laboratory of Clinical Pathology, 925-928 San Jacinto Building, Beaumont.

Laboratory of Dr. R. C. Curtis, 127½ W. Collin Street, Corsicana.

Dr. Marvin D. Bell's Laboratory of Clinical Pathology, 1109 Medical Arts Building, Dallas.

Dr. J. H. Black's Laboratory, Medical Arts Building, Dallas.

Terrell's Laboratories, Charles F. Carter, M.D., Director, 706 Medical Arts Building, Dallas.

The Denison Clinical Laboratory, Paul Pierce, M.D., Pathologist, 408 Security Building, Denison.

Turner's Clinical Laboratory, George Turner, M.D., Director, 913-917 First National Bank Building, El Paso.

Dr. W. W. Waite's Laboratory, P. O. Box 63, El Paso.

Dr. T. C. Terrell's Laboratories, 308-324 Texas National Bank Building, Fort Worth.

Dr. Edward F. Cooke's Laboratory, 402 Keystone Building, Houston.

Dr. Martha A. Wood's Laboratory, 431 Kress Building, Houston.

X-Ray Clinical Laboratories, H. T. Nicolle, M.D., Director, 401 Deutser Building, Port Arthur.

Hamilton-Stout Laboratories, W. S. Hamilton, M.D., and B. F. Stout, M.D., Directors, City National Bank Building, San Antonio.

Dr. I. Warner Jenkins' Laboratory, 310-312 Amicable Building, Waco.

Dr. M. H. Glover's Laboratories, 228 Bob. Waggoner Building, Wichita Falls.

UTAH

Dr. Alfred Blumberg's Biologic Laboratories, 824 Boston Building, Salt Lake City.

Salt Lake Pathological Laboratory, T. A. Flood, M.D., Director, 612 McCormick Building, Salt Lake City.

WASHINGTON

Heinemann Diagnostic Laboratories, Maria S. Heinemann, M.D., Director, 403 Bell National Bank Building, Bellingham.

Physicians Clinical Laboratory, O. J. West, M.D., Director, 1001 Cobb Building, Seattle.

Hollister Stier Laboratories, Inc., Robert F. E. Stier, M.D., Director, 312 Old National Bank Building, Spokane.

Drs. Pattons' Wassermann and Diagnostic Laboratories, M. M. Patton, M.D., Director, 501-502 Paulsen Building, Spokane.

WISCONSIN

Hopkinson's Laboratory, E. L. Tharinger, M.D., Director, 211 Grand Avenue, Milwaukee.

Dr. J. J. Seelman's Laboratories, Inc., 79 Wisconsin Street, Milwaukee.

APPENDIX A.—FULL REPORT OF PRELIMINARY STEPS TO THE SURVEY OF CLINICAL LABORATORIES

I. Report of Bureau of Legal Medicine and Legislation of the American Medical Association to the House of Delegates on the Control of Clinical Laboratories.

San Francisco, June, 1923.

At the San Francisco session, the House of Delegates referred to the Bureau of Legal Medicine and Legislation, with power to act, the following resolution:

Whereas, Measures for the control of clinical laboratories have been introduced in the legislatures of certain states, and

Whereas, This form of legislation affects the interests of physicians, chemists, bacteriologists and pathologists; therefore, be it

Resolved, That the House of Delegates authorize the President to appoint a committee to confer with representatives of the American Chemical Society, and the Association of Pathologists and Bacteriologists regarding this matter and report back one year hence with such recommendations as may be pertinent; provided in the interim the Board of Trustees, cooperating with the committee, take such action as may be necessary to protect the interests of the profession and the public.

Subsequently, the House of Delegates, on the initiative of the Section on Pathology and Physiology, adopted the following resolution:

The Section on Pathology and Physiology respectfully recommends to the House of Delegates that a committee be appointed by the President to undertake an investigation of clinical laboratories with a view to secure a responsible and proper supervision of and adequate equipment and facilities for this branch of medical work.

Pursuant to this resolution, the President referred the matter to the Council on Medical Education and Hospitals, and the latter appointed a special committee as follows:

Dr. Louis B. Wilson, Chairman.
Dr. Francis C. Wood.
Dr. E. R. Stitt.
Dr. C. P. Emerson.
Dr. D. J. Davis.

On the initiative of the Bureau of Legal Medicine and Legislation, the American Chemical Society and the American Association of Pathologists and Bacteriologists appointed committees to confer with representatives of the American Medical Association. The committee appointed by the American Chemical Society was made up of:

Dr. Julius Stieglitz, chairman,
Dr. C. L. Parsons.
Dr. Charles H. LaWall.

The committee appointed by the Association of Pathologists and Bacteriologists comprised the following:

Dr. O. T. Schultz, chairman.
Dr. Arthur I. Kendall.
Dr. D. J. Davis.
Dr. J. P. Simonds.
Dr. E. R. LeCount.

The several committees named above met with Dr. Paul N. Leech of the Chemical Laboratory of the American Medical Association, who acted as secretary, without vote, and with Dr. William C. Woodward, executive secretary of the Bureau of Legal Medicine and Legislation, in the offices of the Association, March 6, 1924. Dr. Woodward was elected chairman. After a full discussion of those aspects of laboratory control of interest to the medical profession and to nonmedical men belonging to other professional groups, the resolutions set forth below were adopted. The joint committee believed that it was not its province, but rather the sole province of the committee appointed by the American Medical Association, to undertake an investigation of clinical laboratories with a view to secure a responsible and proper supervision of and adequate equipment and facilities for them, as contemplated in the second of the resolutions adopted by the House of Delegates, set forth above.

The resolutions adopted at the joint meeting are as follows:

REPORT OF JOINT COMMITTEE

In proposing the following specific recommendations concerning the regulation of clinical laboratories, the joint committee of the American Medical Association, the American Chemical Society and the American Association of Pathologists and Bacteriologists wish to emphasize the importance of encouraging and insuring the adequate education of every laboratory worker in the fundamental sciences which he applies. A clinical laboratory, as that term is used by the committee, is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods for the purpose of ascertaining the presence, progress and source of disease.

It is the unanimous judgment of the committee:

1. That it should be illegal for any person not licensed by law so to do, to assume the responsibility of making the diagnosis or of deciding on the progress or source of disease on the basis of any results of a *chemical, pathologic, serologic, bacteriologic, radiologic or microscopic* observation or other laboratory examinations undertaken; and that where laws do not now restrict diagnosis or the clinical interpretation of laboratory examinations to licensed classes of medical practitioners, laws should be enacted to effect that end.

2. That any law providing for the licensing of professional workers in laboratories devoted to ascertaining the presence, progress or source of disease should provide for the examination of members of each profession by competent authorities belonging to the same profession.

3. That as long as an organization or individual engaged in examinations to ascertain the presence, source or progress of disease refrains from all diagnostic and prognostic interpretation of the results of such laboratory tests as provided for in paragraph 1, any effort to force such organization or individual to place itself under the direction of a representative of any other profession is to be deprecated.

4. That the American Chemical Society, the American Medical Association, and the American Association of Pathologists and Bacteriologists should cooperate to establish the principles enumerated in the foregoing resolution whenever legislation in this field may be proposed, and that the cooperation of other national bodies should be solicited.

5. That clinical laboratories be standardized in accordance with the principles laid down in the preceding paragraphs, and legislation should be enacted to insure competent personnel and suitable equipment.

The foregoing report of the joint committee has been approved by the Council of the American Chemical Society and the Council of the American Association of Pathologists and Bacteriologists. It is recommended that it be approved by the House of Delegates.

William C. Woodward, Executive Secretary.

II. Report of Committee on the Control of Clinical Laboratories to the Council on Medical Education and Hospitals of The American Medical Association.

Chicago, June 11, 1924.

Pursuant to a resolution of the House of Delegates in June, 1923, the president of the American Medical Association appointed the committee named below to confer with representatives of the American Chemical Society, of the American Association of Pathologists and Bacteriologists, and of the Section on Pathology and Physiology of the American Medical Association concerning the control of clinical laboratories. The arrangement for the conference was referred to the Bureau of Legal Medicine and Legislation. This conference was held in Chicago, March 6, 1924. A report of the proceedings made by the Bureau of Legal Medicine and Legislation is herewith appended. In this report it is stated that:

"The joint committee believed that it was not its province, but rather the sole province of the committee appointed by the American Medical Association, to undertake an investigation of clinical laboratories with a view to secure a responsible and proper supervision of and adequate equipment and facilities for them as contemplated in the resolutions adopted by the House of Delegates set forth above."

The joint committee also defined clinical laboratory as follows:

"A clinical laboratory, as that term is used by this committee, is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods for the purpose of ascertaining the presence, progress and source of disease."

The paragraphs quoted above place on the committee from the American Medical Association the work of making a survey of all clinical laboratories, either within or unconnected with hospitals in the United States. If this enormous task is to be undertaken, the committee believes it can best be done through the Council on Medical Education and Hospitals acting alone or in cooperation with other national organizations interested in the same problem. The committee would therefore recommend that the Council on Medical Education and Hospitals undertake a survey of all clinical laboratories, both private and public, either within or unconnected with hospitals, which come under the definition of the joint committee as quoted above. Your committee would further recommend that the following questions be included in the Council's survey and that the replies thereto when properly analyzed be made a part of the criteria for determining the standard of any list of approved laboratories, the making or publication of which the Council may recommend.

(*a*) *Housing and Equipment.*—1. Are the housing and equipment adequate for the purposes which the laboratory purports to accomplish?

2. Are they adequate to properly serve the interests of the patients in the hospital with which the laboratory may be connected?

(*b*) *Personnel.*—1. Is there sufficient personnel for the purposes of the laboratory?

2. Are those in charge properly qualified?

3. What is the distribution of their duties?

(*c*) *Functions.*—1. What work does the laboratory purport to do?

2. Does the laboratory staff treat patients? If so, is this under the direction of the physician in charge of the patient? Is it ever done by persons not licensed to practice medicine and not working under the immediate supervision of the licensed physician?

3. What industrial work, if any, not connected with the functions of a clinical laboratory is carried on? Does such work, if any, interfere with the duties of the laboratory personnel in their clinical laboratory work?

4. Does the laboratory do contract work for nonmedical organizations? If so, what is the nature of the contract and the extent of such work?

(*d*) *Interns' Opportunities* (in hospital laboratories).—To what extent are interns required, permitted or forbidden to make routine laboratory examinations?

2. To what extent are interns required, permitted or forbidden to attend necropsies and clinical-pathologic conferences?

(*e*) *Publicity.*—1. Is the laboratory's publicity matter confined to announcements made direct to physicians either through bulletins or in recognized medical journals, or is it directed to the nonprofessional public, as, for example, by announcements in popular journals and periodicals?

2. Is its publicity in professional good taste by being limited to statements of fact, as, for example, name, address, telephone number, names and titles of active responsible personnel, fields of work covered, office hours, directions for sending specimens, etc., or does it contain misleading overstatements or claims to unusual superiority?

(*f*) *Training of Laboratory Technicians.*—Does the laboratory attempt to train technicians other than to supply the needs of its own staff? If so, are its facilities for instruction adequate and is its course of training satisfactory for the education of technicians? What certificate, if any, does it grant to technicians which it has trained?

This committee would suggest that the Council on Medical Education and Hospitals undertake at its earliest convenience, either alone or in cooperation with other national organizations, the survey of any laboratory on the foregoing plan at the request of any local unit of the American Medical Association, or of any such laboratory. It would further suggest that such a survey covering the entire United States be carried forward in a methodical manner regardless of the receipt or absence of any such requests.

Respectfully submitted.
Louis B. Wilson, Chairman.
D. J. Davis.
Francis C. Wood.

Absent from meeting, E. R. Stitt, C. P. Emerson.

APPENDIX B.—THE QUESTIONNAIRE

SURVEY OF LABORATORIES

For All Clinical Roentgen-Ray and Other Laboratories That Do Clinical Work for Physicians

Name and address......When founded.......By whom founded........

1. Type of organization: Individually owned.......Partnership........
Corporation.....Public Health [illegible] City [illegible] State [illegible] Federal......
Hospital......Group [illegible] College.....
Roentgen-Ray......O[illegible]

2. Housing: Discuss space occupied......

3. Equipment: (*a*) State in general the amount and kind of equipment...... (*b*) Is equipment adequate properly to serve the interests of the laboratory's patrons?......

4. Personnel: (*a*) Is the director a medical graduate?......If not, what degree does he hold?............ (*b*) Kindly list your staff, giving following data:

Name	Education and Degrees	Experience	Duties	Fraction of Time Spent in Laboratory
....	....	....	....	....

5. Functions: (*a*) Kindly indicate the kinds of work the laboratory purports to do. State numbers of each kind of test, approximately if necessary.

NUMBER PER YEAR

Blood... [illegible]
Electrocard[illegible]
Spinal Flui[illegible]
Pathologic.[illegible]

(*b*) Does the laboratory give any treatments?......If so, what kind of treatments are given?......

(*c*) What are the rules relating to diagnosis and treatment?..........

(*d*) What supervision is there over the diagnoses and treatments?...... By whom?......

(*e*) Is diagnosis or treatment ever made by persons not licensed to practice medicine and not working under the immediate supervision of a licensed physician?........

(*f*) What industrial work, if any, not connected with the functions of a clinical laboratory, is carried on?......

(*g*) Does such work interfere with the duties of the personnel in their clinical laboratory work?......

(*h*) Is contract work done (1) for medical institutions?......(2) for nonmedical organizations?......

(*i*) What is the nature of such work?......

(*j*) What are the terms of the contract?......

(*k*) Does the laboratory do contract work for physicians?......Is a keep-well service conducted for the laity?......

(*l*) Is all work received through other physicians or are examinations made for patients directly?......

(*m*) Are reports mailed to physicians only?......

(*n*) Do any of the physicians connected with laboratory conduct a medical practice of their own?......

(*o*) What associations do you have with hospitals?......With other institutions?......

(*p*) What public health work do you do for city, state or federal government?......

(*q*) Are the members of the laboratory staff doing research work?...... State briefly the nature of this work......

(*r*) Is any animal experimentation being carried on?......

(*s*) Give the number of papers published during the last year........

6. Publicity: (*a*) Kindly name the papers, journals and periodicals in which you have h[illegible]t year......(*b*) What other means of [illegible] Kindly send fee lists, prospectus and [illegible] carried during the last year.

7. *Training of Laboratory Technicians:* (*a*) Does the laboratory attempt to train technicians other than to supply the needs of its own staff?......(*b*) What is the length of the course?......(*c*) For whom is it intended, whether physicians, nurses, or others?..............
(*d*) Entrance requirements......(*e*) Tuition charged......(*f*) Course of instruction......(*g*) What certificate is given?......

Remarks ....

Information furnished by........Official position........Date........

THE JOURNAL OF THE
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SATURDAY, APRIL 3, 1926

HOSPITAL SERVICE IN THE UNITED STATES

This week we present the fifth annual compilation of statistics regarding hospital service in the United States. Although similar statistics have been compiled and published in special bulletins since 1914 by the Council on Medical Education and Hospitals, the first regular hospital number of The Journal did not appear until in 1921, and contained statistics based on a special survey made during 1920. A hospital number of The Journal has been issued each subsequent year with the exception of 1924, when the date of issuance was advanced to early in 1925. These statistics have become more extensive as the work has progressed, and this year they are exceptionally elaborate and complete.

HOSPITALS ESTABLISHED IN FIVE YEARS

New hospitals have been established averaging about 100 each year, the total number in the five years being 508. State maps are again published similar to those in 1920. On these maps the open or white symbols indicate hospitals established since 1920. It is interesting to note in table 3, also, that of the 1,695 counties which in 1920 were without hospitals, 341 have since been supplied, leaving 1,354 which are still without hospitals.

INTERESTING DATA FOR MARYLAND

An interesting situation appears in Maryland, where the total number of hospitals has been diminished from 136 in 1920 to ninety-three in 1925. Instead of hospital facilities being lessened, however, as might be expected, on the contrary there has been an actual increase in hospital facilities, as the total number of beds has been increased by 212 since 1920, and two of the eleven counties having no hospitals in 1920 have since been supplied. Although the ratio of hospital beds to population has decreased from 1 to 231 in 1920 to 1 to 235 in 1925, nevertheless the percentage of beds constantly occupied by patients has increased from 71 per cent in 1920 to 78 per cent in 1925. It is apparent, therefore, that the hospitals discontinued have been in districts which were oversupplied, and that hospitals in districts not satisfactorily supplied have been increased in capacity. The readjustments, therefore, appear to have been of advantage.

PHYSICIANS ON HOSPITAL STAFFS

Information of special interest and importance is set forth in table 5, which gives for each state the number of physicians who at present have hospital connections, either on the staff or as residents, interns, medical directors or superintendents. The figures for staff members include some unavoidable duplications, as certain physicians are members of the staffs of two or more hospitals, especially in the larger cities. In Chicago, for example, of the 1,504 physicians on hospital staffs, there are 420 duplications, as 329 physicians are on the staffs of two hospitals each, thirty-five are staff members of three hospitals each, and seven have membership on staffs of four hospitals. It is estimated, therefore, that the total number of physicians on hospital staffs should be discounted by not more than 10 per cent, as duplications occur in the few largest cities. There are no duplications in the physicians included among resident physicians, interns or hospital superintendents. Altogether, therefore, approximately 90,000, or 60 per cent of all physicians in the United States, have immediate connection with the hospitals.

APPROVED LISTS OF HOSPITALS

Hospitals have been listed by the Council in four groups, the first three of which are approved. All hospitals named in either The Journal or the American Medical Directory are approved as places where sick or injured persons can secure at least fairly efficient care. Hospitals in which the educational function is especially developed and which provide exceptional facilities for the training of interns are included in a special list[1] of those approved for internships. A list is now being developed of hospitals which provide acceptable residencies in one or more specialties for physicians who have already completed internships in general hospitals.[2]

ELIMINATION OF THE UNFIT

The fourth group of hospitals contains the names of 294 institutions which—because of grossly unethical reasons, such as criminal practices, admission to their staffs of members who are seriously unqualified, either morally or professionally, flagrant methods of advertising or for other valid reasons—are deemed unworthy of being included in any published list of reputable hospitals. The separation of such institutions from the Council's published lists marks the development of an aggressive campaign to establish safeguards against irresponsible or malicious institutions of this type which are an actual menace to the public. For these reasons, therefore, they are excluded from the lists of institutions held out as worthy of receiving the public's patronage.

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[1] List published on pages 1056-1063, inclusive.

[2] A tentative list of these hospitals appears on pages 1063 and 1064.

APPRECIATION

Our special acknowledgments and appreciation are extended to the many hospital superintendents, chiefs of staffs, official executives of government hospitals and many others who have cooperated with us to a most remarkable extent in the preparation of the elaborate and complete reports which have made possible the publication of these valuable statistics.

HOSPITALS MAINTAINED BY NATIONAL, STATE AND LOCAL GOVERNMENTS

The hospital services maintained by the national government have been considerably increased since 1909, largely because of conditions resulting from the World War. Of all hospital beds, the proportion controlled by the national government has increased from 2.1 per cent in 1909 to 2.3 per cent in 1914, 3.1 per cent in 1918, 6.8 per cent in 1923 and 7.1 per cent in 1925. There are now 299 hospitals maintained by the national government with a total capacity of 57,091 beds, of which an average of 42,377, or 74.2 per cent, are constantly occupied. These figures cover the hospitals maintained by the United States Army, Navy and Public Health Service, the Veterans' Bureau, and several hospitals for government beneficiaries located in the District of Columbia and elsewhere.

For many years the state governments have had a comparatively large part in the provision of hospital facilities, particularly in maintaining large hospitals for the insane, the tuberculous and sufferers from other chronic diseases. In 1909, the state governments maintained 45 per cent of all hospital beds, but by 1925 the percentage had been reduced to 40. The capacity of the 351 hospitals maintained by state governments, however, has increased from 189,049 beds in 1909 to 317,264 beds in 1925, and of the latter, 305,466 beds, or 96.2 per cent, are ordinarily occupied. To an increasing extent the states are creating and maintaining general teaching hospitals for their state university medical schools. In sixteen states, eighteen such hospitals are now being maintained with a total of 4,582 beds and an average of 3,467 patients. Ten states also maintain twenty-three general hospitals which are not essentially for teaching, these having 4,496 beds, of which 3,865 on the average are regularly occupied. Of these states, Mississippi maintains four regional charity hospitals, Louisiana has two such hospitals and Pennsylvania has ten, these being for the care of the sick and injured in the mining districts. Other states that maintain some form of general hospital service, including mainly hospitals for crippled children, are Illinois, Iowa, Minnesota, Nebraska, New York, North Carolina and Rhode Island.

Local and county governments now maintain 471 hospitals, with 53,027 beds. City governments maintain 371 hospitals with 59,630 beds, and cities and counties combined maintain sixty-nine hospitals with 7,118 beds. Altogether, county and municipal governments combined support 911 hospitals having 119,775 beds, comprising 14.9 per cent of the entire bed capacity in the United States.

At the present time, therefore, 62 per cent of all hospital beds in this country [1] are financed by government agencies—national, state, county and city. It is interesting to note that the number of beds in hospitals maintained by government agencies has held about the same ratio to the total beds in all hospitals in the country, at least since 1909, when the earliest reliable statistics were compiled regarding the bed capacity of all hospitals. This leaves 38 per cent of all hospital beds in the United States which are maintained by nongovernmental agencies.

VITAL CAPACITY AND PROGNOSIS

Vital capacity is measured by the largest expiration following the deepest inspiration. Until recently this physical feature of the respiratory functions received little serious consideration except as a physiologic experiment. Peabody has significantly remarked that those who, during the last few years, have been studying the function of respiration have devoted their attention largely to the changes in the blood gases and have paid little attention to the mechanical aspect of pulmonary ventilation. Variations in the gaseous content of the blood are of course of the utmost importance, and they affect the stimulus to respiration; but at the same time, Peabody adds, one cannot neglect the response on the part of the lungs to this stimulus. This response manifests itself in the ventilatory function of the lungs, which promotes the proper exchange of gases through the cells of the alveoli.

Since vital capacity is an indication of the competence of the mechanism of external respiration, it has of late come to be regarded as in no small degree indicative of physical fitness. For example, the measurements recently made by White and McGuire [2] of the United States Army Medical Corps on students in an army summer training camp indicate that, despite the present limitations of the technic of observation, the vital capacity is at least in some degree indicative of general physical condition. With improvement of the latter as the result of the course of training prescribed, the vital capacity tended to increase correspondingly.

As Peabody, who has devoted much attention to the subject in the clinic, recently pointed out, in medicine the determination of the vital capacity of the lungs has been most useful in the field of cardiac disease. It is less valuable in diagnosis than it is in prognosis, and it is of particular interest in following the course of cases from day to day and from week to week. According to Peabody, the graphic record of the vital capacity of the lungs in a case of chronic heart disease usually gives one a better idea of the clinical course of the case than do any of the other observations that are made. The use of the spirometer will need to be "standardized" more universally and the sources of inaccuracy or uncertainty in determinations be taken into account more adequately before the estimates will be entirely satisfactory. To one who recalls the evolution of the apparatus for the measurement of basal metabolism, such technical features do not seem forbidding. The occasionally uttered criticism that estimates of vital capacity show considerable variations in "normal" values may remind us that other valued data, such as the leukocyte counts, have helpful significance notwithstanding a considerable latitude in the deviations of the customary figures from a mean average.

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[1] See Table 9 on page 1014.

[2] White, S. A., and McGuire, P. F.: Vital Capacity in a Citizens' Military Training Camp, Arch. Int. Med. 36: 355 (Sept.) 1925.

It is significant, therefore, that discussions of vital capacity are looming larger in the eyes of surgeons, particularly in relation to thoracic surgery. Graham of St. Louis has pointed out that the effect of various intrathoracic procedures on the mechanism of external respiration is to some extent dependent on vital capacity. Yates[3] of Milwaukee has lately defended the following theses: Estimations of vital capacity are helpful in diagnosis, in prognosis, in determining the effects of treatment and in measuring ultimate results as they record the effectiveness of the basic function, external respiration. Protection of the structures and of the activities of the structures that establish and control external respiration so that vital capacity is kept at the highest level permitted by circumstances is the guide to effective treatment of intrathoracic diseases. Deliveries of blood through bronchial arteries and through the pulmonary arteries are controlled by the functional activities of lungs, which are proportionate to vital capacities. Resistance, defense, growth and repair of intrathoracic structures, as well as of the entire organism, are commensurate with vital capacity. Accordingly, it should follow that acute and chronic intrathoracic diseases and recent thoracic injuries can be treated more simply and safely by measures that will conserve external respiration by keeping vital capacities high during active phases of maladies and leave them, after convalescence, at their highest. What procedures will best promote these desired ends may remain to be determined. When a competent surgical investigator[3] defines vital capacity as "a fair criterion of life, reaching its peak when physiologic competence is highest, diminishing as incompetence increases and becoming zero when respiration ceases," intrathoracic therapy cannot well afford to overlook this helpful index.

IRON AND BLOOD REGENERATION

"The history of anemia treatment with drugs is indeed a tale to make the judicious grieve." These are the words that Whipple and Robscheit-Robbins[1] used in discussion of their studies of blood regeneration. A multitude of drugs, they continue, have been proposed, enthusiastically supported, then questioned, and finally abandoned. On the whole, iron seems to enjoy the most constant favor by practicing physicians. Yet there are many good reasons for past and present misconceptions. Clinical control of patients is difficult and the number of variables almost infinity; therefore it need not surprise the critic to find that there have been differences of opinion relating to the influence of various drugs on various anemic conditions. Diet factors, Whipple and Robscheit-Robbins add further, are only recently coming in for proper study and consequent appreciation.

The most striking feature of this aspect of the subject is the demonstration now furnished by various investigators that iron per se is, ordinarily at least, not always the outstanding beneficial factor in the reconstruction of blood pigment. Somehow attention has been centered so many years on the uniqueness of hemoglobin as a ferruginous protein that the possible significance of the non-iron residue of the molecule tends to be overlooked. Furthermore, it is not unlikely that the degree of activity of the hematopoietic organs, whatever they are, may be quite as important as the organic and inorganic sources out of which blood is regenerated. In other words, hemoglobin formation and hematopoiesis in general are presumably complex functions the success of which is modified by various factors.

Less than four years ago, Whipple[2] specifically indicated some of these. Among the potent factors exerting a positive influence on hemoglobin, he wrote, stand, first, red meat and cooked liver, hemoglobin and butter fat. Then come spinach and full diets of common food grains and milk. Practically inert are other chlorophyl-containing vegetable leaves—celery, parsley, beet tops and sprouts. In the same negative group are fish and clams, onions and beets and animal fats, including lard and cod liver oil. Iron and arsenic in the common drug preparations are likewise inert under these conditions.[3] The inclusion of hemoglobin itself with a substance so widely different as is edible fat indicates the difficulty of interpreting the varied findings heretofore presented. To Whipple and his co-workers the value of iron seemed to depend on the severity of the anemia to be combated. Williamson,[4] who studied the problem at the University of Illinois, concluded that inorganic iron, whether given by mouth, subcutaneously or intravenously, is absorbed and may be found especially in the liver and spleen, but is not converted into hemoglobin. Animals made anemic by one or several large bleedings do not recover any more rapidly when inorganic iron is given in any of these ways. Williamson believes, however, that the efficiency of food iron is pronounced.

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[3] Yates, J. L · The Significance of Vital Capacity in Intrathoracic Therapy, Arch. Surg. **12**: 257 (Jan.) 1926.

[1] Whipple, G. H, and Robscheit Robbins, F S · Blood Regeneration in Severe Anemia, I, Standard Basal Ration Bread and Experimental Methods, Am J Physiol **72**: 395 (May) 1925. Robscheit Robbins, F. S, and Whipple, G H: Blood Regeneration in Severe Anemia, II, Favorable Influence of Liver, Heart and Skeletal Muscle in Diet, ibid, p. 408 Whipple, G H, and Robscheit Robbins, F S: Blood Regeneration in Severe Anemia, III, Iron Reaction Favorable—Arsenic and Germanium Dioxide Almost Inert, ibid, p 419. Robscheit Robbins, F. S, and Whipple, G H: Blood Regeneration in Severe Anemia, IV, Green Vegetable Feeding, ibid, p 431

[2] Whipple, G H · Pigment Metabolism and Regeneration of Hemoglobin in the Body, Arch Int Med **29**: 711 (June) 1922

[3] This is discussed by Whipple, G H. Iron in Anemia, J. A M. A **86**: *367 (Jan 30) 1926*

A new complication has been injected into the current confusion by Barkan[5] of the University of Frankfort, who has conducted an inquiry into the behavior of hemoglobin toward the digestive enzymes. If the pigment itself can facilitate blood regeneration, does it do so in part by acting as a source of ionized iron? In other words, what is the fate of the iron of ferruginous compounds in the gastro-enteric tract? The new tests indicate that neither the gastric acidity nor peptic or pancreatic digestive extracts, even when used in natural sequence, liberate iron from hemoglobin. Perhaps this furnishes further significant indication that it is not so much iron as the complexes with which it is associated that determine hematopoietic efficacy. Whether such a conclusion will be further substantiated by the behavior of other potent iron-bearing organic compounds in digestion remains to be learned.

Current Comment

CLINICAL LABORATORY STATISTICS

The first presentation of statistics with regard to the clinical laboratories in the United States appears in this issue of The Journal. Measures toward the establishing of efficient supervision over clinical laboratories were initiated at the meeting of the American Medical Association in San Francisco in July, 1923. A carefully worded questionnaire was mailed to all clinical laboratories, and the statistics published are based on the replies received. Meanwhile, with the assistance and advice of the officers of the various associations interested in clinical laboratories and many other experts in laboratory work, the Council prepared a schedule of principles or essentials[6] by which a list of institutions worthy of the Council's approval could be prepared. As a result, the first tentative list[7] of laboratories deemed worthy of approval is published in this issue. In its relation to clinical laboratories, the Council's attitude is the same as that which has guided its relationship to medical colleges, graduate medical schools and hospitals. In brief, the Council makes no attempt to interfere with any clinical laboratory or to prevent it from conducting its affairs as it deems best. However, if the clinical laboratory desires to obtain the Council's endorsement as an approved institution, it should be willing to comply with the principles designated by the Council as essential in clinical laboratories which are acceptably equipped and maintained. Thus a supervision over clinical laboratories in the Unted States has been established which, it is believed, will bring results no less satisfactory than the supervision established over medical schools and hospitals.

SOME MANIFESTATIONS OF FAT EMBOLISM

Fat embolism is not a modern subject. Porter has stated that it has been studied experimentally during two and a half centuries. Interest in its pathologic manifestations has been greatly stimulated since the World War, largely because fat emboli were held responsible by some students for the manifestation of shock, illustrations of which in large numbers are furnished by combats on the battle field.[1] It is easy to produce embolism experimentally in animals when fat is injected into a vein. Liberation of fat presumably occurs after shell fracture of large bones and after multiple wounds through masses of subcutaneous fat. Porter has pointed out that the fat in bones is in a condition peculiarly favorable to its entrance into the blood vessels after fracture. Large quantities of fat have repeatedly been found in the blood vessels after fracture. The entrance of fat into the blood vessels begins immediately after the wound. Frequently, if not always, there is fat embolism of the brain and other organs. Porter looked on fat embolism of the vasomotor center as the cause of shock. That such a view has not gone without debate, the columns of The Journal have repeatedly testified.[2] Heretofore, attention has been centered largely, if not exclusively, on the occurrence of fat emboli in two groups of tissues: the pulmonary vessels and the capillaries of the central nervous system. In fact, it is the pathologic disturbance in these two regions that has been regarded above all as responsible for deaths due to fracture of the bones. Paul and Windholz[3] of Vienna have lately stated, however, that other localities may suffer from the entrance of fat in hitherto unappreciated ways. This is particularly true of the capillaries of the kidneys. The latter may become so involved that renal function is altered to the extent of inducing uremic symptoms. Thus, death may ensue in the so-called cerebral type of fat embolism not only through embolic injury to the nervous tissues but also as a consequence of direct suppression of kidney function without any likelihood of the usual nephritic degenerative changes. Liver functions may likewise be injured because of fat emboli in the hepatic capillaries. Often the manifestations of fat embolism have doubtless been misunderstood because consideration has been fixed primarily on only one or two organ groups.

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[4] Williamson, C. S., and Ets, H. N.: The Value of Iron in Anemia, Arch. Int. Med. **36**: 333 (Sept.) 1925.

[5] Barkan, G.: Eisenstudien, I, Zur Frage der Einwirkung von Verdauungsfermenten auf das Hamoglobineisen, Ztschr. f. physiol. Chem. **148**: 124 (Oct.) 1925.

[6] See page 1068, this issue.

[7] See page 1070.

[1] Porter, W. T.: Traumatic Shock, the Harvey Lectures, 1917-1919, Philadelphia, J. B. Lippincott Company.

[2] The Vasomotor Mechanism in Shock, editorial, J. A. M. A. **70**: 625 (March 2) 1918; Trauma and Shock, ibid. **71**: 904 (Sept. 14) 1918; The Tissue Factor in Shock, ibid. **72**: 867 (March 22) 1919; Shock and Fat Embolism, ibid. **72**: 1848 (June 21) 1919. Cannon, W. B.: The Course of Events in Secondary Wound Shock, ibid. **73**: 174 (July 19) 1919. The Production of Shock, Correspondence, ibid. **73**: 439 (Aug. 9) 1919. Improved Methods of Treatment of Shock, editorial, ibid. **74**: 106 (Jan. 10) 1920; Factors Facilitating Circulatory Shock, ibid. **75**: 247 (July 24) 1920; The Alkali Reserve of the Plasma in Surgical Shock, ibid. **75**: 880 (Sept. 25) 1920. Crile, G. W.: The Mechanism of Shock and Exhaustion, ibid. **76**: 149 (Jan. 15) 1921. Shock as a Result of Toxemia, editorial, ibid. **78**: 585 (Feb. 25) 1922; Physiologic Effects of Air Concussion, ibid. **82**: 1446 (May 3) 1924.

[3] Paul, F., and Windholz, F.: Experimentelle Studien ueber die Fettembolie und den durch sie verursachten Tod, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **38**: 614, 1925.

DIPHTHERIA IN 1925

The annual diphtheria summary in this issue (p. 1005) affords one of the most encouraging records of recent years in preventive medicine. From 1910 to 1920, little improvement could be demonstrated in diphtheria mortality in most cities. In 1910-1914, only thirteen cities averaged rates under 10; in 1915-1919 and again in 1920-1924, there were only eighteen cities that could be so classed; but in 1924 there were thirty-seven and in 1925 forty-nine with diphtheria rates practically unknown anywhere before 1910. There can be little doubt that the amazing reduction in recent years is to be attributed in large part to the increasing immunization of school children with toxin-antitoxin mixtures or with anatoxin. This conclusion seems warranted, not only by the observations in individual cities like New York where the method has been extensively employed, but by the rapid decline in diphtheria mortality throughout the general population. In 1923, the diphtheria death rate in the large cities of the United States was 13.14; in 1924, it was 11.15, and in 1925, 9.88. Something may doubtless be credited to the curative side, since the use of antitoxin is probably more widespread and more effective each year; but the fact that since immunization measures began to be applied the diphtheria rates, previously almost stationary, have suddenly and decisively dropped indicates that the latter is the main factor. If the improvement of the last three years continues, diphtheria may well be an almost negligible factor in the mortality returns of 1930.

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Held in Chicago, Feb. 15, 16, 17 and 18, 1926

(Continued from page 958)

State Board of Examiners in the Basic Sciences: Wisconsin's Basic Science Law

Michael F. Guyer, Ph.D., Madison, Wis.: The design of the Wisconsin basic science law is not to render unlawful any particular mode of treatment but to insure that those who make an occupation of treating the sick shall have sufficient knowledge of the human body in health and disease to make it safe for them to do so. To prove that they have this knowledge, all candidates for license to treat the sick are required to pass examinations in the four basic sciences of human anatomy, physiology, pathology and diagnosis before they can come before their particular licensing boards. These examinations are conducted, by a board of three members, "not less than four times a year." The present board consists of two biologists and a chemist. The licensing boards are permitted, at their discretion, to accept the basic science certificate in lieu of examination in the subjects of anatomy, physiology, pathology and diagnosis. As the attorney general has ruled that chiropractors from other states are not eligible to reciprocity, the only applicants who can comply with the requirements are those who must also secure their licenses from the state board of medical examiners; hence, as regards reciprocity, the basic science board has for the time being adopted the standards of the medical board as its own. The law further states that "any person who on February 1, 1925, was regularly licensed or registered in the state of Wisconsin to treat the sick need not be registered under the basic science law." This includes not only those who were licensed to practice medicine and surgery or osteopathy and surgery, but also midwives, chiropodists and masseurs. The further specification is added that "any person who, on February 1, 1925, was not registered or licensed in the state of Wisconsin to treat the sick but nevertheless on that date was lawfully engaged in this state in treating the sick shall be registered upon presenting to the board within sixty days after this section goes into effect an application therefor with sufficient and satisfactory evidence that he was on such date lawfully engaged in this state in treating the sick, and is of good moral character, and upon the payment of a registration fee of five dollars."

DISCUSSION

Dr. John M. Dodson, Chicago: Not long before I left Wisconsin I chanced to be a member of a committee to secure the passage of an effective medical practice act. I conducted the correspondence. One interesting letter, on a sheet of legal cap paper, bore the legend at the top, "Dr. P. McGillicuddy, M.D., Physician and Surgeon, Dealer in Drugs, Medicines and Notions, also Bees and Honey." You see they were a versatile lot in Wisconsin at that time. The common sense of the present Wisconsin act appeals to the laity, and I think the lack of that feature has been one of the causes of the many failures to secure the right kind of medical practice acts and to enforce them in this country.

Dr. A. T. McCormack, Louisville, Ky.: It seems to me that we would be far better off without any laws at all than for the members of a profession to be examined by individuals who are not members of the profession. I believe firmly in an examination by a central body, but I believe that central body ought to represent the profession, and I anticipate with great alarm the time when we sign away our rights and become a profession without intelligent representation on the boards of control.

Dr. Harold Rypens, Albany, N. Y.: I do not feel that the bad thing about this law is that laymen give the examination, if they are good examiners. What I object to is that any one who comes from any eligible high school is eligible to take this examination. I look on this as a retrogression to low standard of medical licensure.

Dr. T. J. Crowe, Dallas, Texas: You are trying to get through weak and useless legislation.

J. G. Crownhart, Milwaukee: The profession in Wisconsin was not looking for something to protect the medical profession; on the contrary, it was looking for something to protect the public. This law is enacted not as a licensing measure; it is a negative measure, that you cannot go before any other board until you have passed at least this minimum requirement. It is not an attempt to bring down the standards of medical education; it is simply an attempt to protect the public from pure quackery and fraud.

Michael F. Guyer, Ph.D., Madison, Wis.: We do not license anybody or anything; we are a filter, and before anybody can come up before what may be possibly a weaker board than our medical board, like a chiropractor board, he has to pass through our hands. High school men may come before us for examination. That does not mean that we are going to pass them. We try to find out whether they know a little something about the human body and health and disease. We find many of them do not. If they do not, they cannot go before the licensing board. Suppose we did not have such a provision. They would walk over to their chiropractor board, if that was the school in which they were trained, and be licensed to practice chiropractic. As it is now, they have to go through our hands first, and while I am not an authority on chiropractic schools, the material that has come before us so far has not been material that we could pass.

Dr. Harold S. Rypens, Albany, N. Y.: After a chiropractor candidate has passed your board, what would he have to do in way of further examination and study to get his license to practice?

Michael F. Guyer, Ph.D., Madison, Wis.: He would have to pass before a chiropractic board, which is entirely a chiropractic board and distinguished from a medical board. There is a needless alarm over the lowering of standards. The whole object is to put up the standards. We have enough quacks of all kinds and various irregular cults in our own state. They have powerful lobbies back of them. You are up against the same thing. Are you going to let them swing public opinion through negligence of the medical people? The public is not educated up to what is a real, genuinely trained practitioner and what is not. Are you going to let public opinion swing over and get all sorts of licensing boards for these things or are you going to head it off somewhere?

The New Commission on Medical Education: Its Objects and Relation to Medical Licensure

Dr. Willard C. Rappleye, New Haven, Conn.: The commission is composed of three general groups: (1) those interested primarily in general and graduate education; (2) men interested in medical education proper: fundamental sciences, clinical medicine and premedical education; (3) representatives from both the National Board of Medical Examiners and the Federation of State Licensing Boards. We would be interested in knowing what are the elements of education in a basic course which prepare a man reasonably, safely and adequately to begin the practice of medicine. We are thinking of getting at the basic preparation which will prepare a person to take advantage of the new demands that will come to the medical profession in the next twenty or twenty-five years, and the new demands that come from the public. We recognize that the major problem before medicine today is not education but medical practice. We have started out to get at this question of a basic course in medicine by asking just the question, What is or what should be the general practice in medicine? We are approaching that from the needs of communities for various kinds of medical services. We are studying the actual demands that are now being made on the medical profession in the country, by getting sample experiences of men in general practice in typical communities. In medicine there are a group of questions. Among them are: What are the qualifications of individuals coming up for a medical course? What should be given in the basic course of medicine? By whom should it be given? How should it be given? A study is being made of what is happening to the 10,000-odd applicants for admission to schools of medicine when only about 4,000 are accepted.

DISCUSSION

Dr. Howard Rypens, Albany, N. Y.: I think that any legislation that is pending in the various states should be held in abeyance, if possible, until at least some of the results of this very important study have been brought before us.

Dr. Henry A. Christian, Boston: One way to study an organization and a machine is to give up studying the methods of the organization of the machine and devote our attention to a study of the product. It seems to me that one important field of this study is going to be this examination of the product. Dr. Rappleye has mentioned one very important phase of that, namely, the study of the problems that confront the physician in communities of different types, communities of different sizes, and so on, as a means of finding out in what we should instruct our students. He has touched on another phase in suggesting the great importance of getting an idea of the future development of the practice of medicine as far as you can anticipate it and preparing the man in part to meet the unexpected demand of that development. Finally, there is one phase of the thing that has always interested me. Certain schools fail to admit men each year and they never pay any attention to finding out what those men accomplish, what becomes of them. Do they keep on studying medicine? Do they go to some other school? If, so, do they succeed or do they not succeed? This survey is going to help us along those lines.

Dr. Louis B. Wilson, Rochester, Minn.: I have great faith in the board as it is constituted to arrive at a fair knowledge of the medical profession, as to what it is doing and what it ought to do, how well prepared it is and how ill prepared it is to do the work.

Dr. John M. Dodson, Chicago: It seems to me that the commission might very well consider as part of its work ways and means of educating the laity. We have framed legislation and put it on the books, but we have not convinced the public that they need it. Until we do that we might just as well not pass legislation at all. The solution of most of our ills is education of the people concerned.

(To be continued)

THE DALLAS SESSION

Multiple Reservations at Dallas

The Dallas Chamber of Commerce complains that many physicians who expect to attend the Dallas Session have made reservations at more than one hotel, and that even when notified by all the hotels concerned that such reservations have been made, none of them have been released. Such procedure is manifestly unjust and seriously complicates the hotel situation in Dallas. Of course, the hotel has to accept all requests for a reservation in good faith, and when one physician makes reservations at more than one hotel, some other physician who wishes to attend the Annual Session at Dallas has his chances for securing satisfactory accommodations reduced accordingly. All who have made more than one reservation are urgently requested to release immediately those reservations which will not be used.

Those who have not yet secured reservations at Dallas should write at once to the Dallas Chamber of Commerce. All possible effort will be made to have satisfactory accommodations for all who will attend the Annual Session.

A. M. P. O. Luncheon

Dr. Ramsey H. Moore, Medical Arts Building, Dallas, is the chairman of a committee in charge of arrangements for the annual A. M. P. O. luncheon, to be given during the annual meeting of the American Medical Association.

Motion Picture Theater

An exceedingly attractive program affords opportunity for many who come early to attend features of special interest in the Motion Picture Theater. The Motion Picture Theater opens at noon on Monday (as does also the Scientific Exhibit) and will operate also on Tuesday from 9 a. m. to 5:30 p. m., as well as on Wednesday, Thursday and Friday. Also those who wish to attend only section meetings on Wednesday, Thursday and Friday will find it an advantage to come early to the meeting in order to hear these talks on Monday and Tuesday.

Scientific Exhibit

The United States Public Health Service is actively engaged in making arrangements for the coordinating Immunologic Exhibit on vaccination. Dr. J. P. Leake is in charge and will demonstrate various types of "takes" as well as the technic of vaccination. In addition, the United States Public Health Service will have a comprehensive exhibit of its general work. The Division of Venereal Diseases will demonstrate its work, and the Division of Marine Hospitals will show the investigations in leprosy.

Wounded Prisoners of War.—The *Archives médicales belges* comments on the work accomplished by Switzerland in interchanging prisoners of war that were incapacitated by wounds or disease and interning others. The interchange arrangement allowed the return to their homes through Switzerland of 10,000 wounded French, British, Belgian or German soldiers, and in all, 75,000 soldiers were interned during the war. There were twenty different centers for the accommodation of the interned. Two Swiss committees passed on the recommendations made by the Red Cross for repatriation.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALASKA

Hospital Boat on the Yukon.—The governor of Alaska announced, March 26, that a well equipped hospital boat with a physician and two nurses on board will be put in service this year on the Yukon River and its tributaries, to minister to about 5,000 persons who would otherwise be without medical service. Most of the natives live along the banks of these streams.

CALIFORNIA

Personal.—Dr. Alexander W. Pollock, recently of Ontario, Calif., has accepted an appointment as a medical missionary to Abyssinia, to replace Dr. Thomas A. Lambie, who will return to this country on furlough. Dr. Pollock was a medical missionary in Egypt for many years.——Dr. William P. Byron has been appointed health officer of Lemoore in Kings County to succeed Dr. William F. Edmonds.——Dr. Paul E. Bowers, Los Angeles, has been elected president of the Southern California Academy of Criminology.——Dr. F. Leslie Herrick, Oakland, has been appointed assistant surgeon of the Napa State Hospital.——Dr. Francis F. Malone has been appointed health officer of Calipatria in Imperial County.

Lectures on Diseases of the Pacific Basin.—Dr. Henry S. Houghton, director of the Peking Union Medical College, Peking, China, will deliver the first course of two lectures under the Morris Herzstein lectureship on diseases of the Pacific Basin including tropical diseases, during the week beginning April 25 at Lane Hall, Stanford University School of Medicine, Sacramento Street near Webster, 8 p. m. In his first lecture Dr. Houghton will discuss the setting of western medicine in Asia and its significance in promoting international well being. The second lecture will be on nosogeography and on work that is being done in China. Physicians and all medical students are invited to attend.

Smallpox Kills 125.—In its weekly bulletin, the California State Board of Health again calls attention to the type of smallpox that prevails in the state, saying that in the first seventy days of this year, more people died of smallpox in California than during the years 1923, 1924 and 1925; between January 2 and March 13, there were 1,449 cases reported and 125 deaths. Los Angeles County suffered most; the city of Los Angeles had 636 of the cases and 108 of the deaths. The state board considers that the facts concerning the prevention of smallpox by vaccination are too well known for any individual to plead ignorance and that the responsibility for contracting smallpox now rests entirely on the individual; health officers seem to have done all that they can to encourage the continuous exercise of vaccination.

DELAWARE

University News.—Henry C. Sherman, Sc.D., professor of food chemistry, Columbia University, New York, lectured at the University of Delaware, February 16, on "Recent Advances in the Chemistry of Nutrition."

Health at Wilmington.—Telegraphic returns to the U. S. Department of Commerce from sixty-eight cities with a total population of 29,000,000, for the week ending March 6, shows that the highest mortality rate (32.5) was for Wilmington, Del., and the general mortality rate for the group of cities was 16.2; for the corresponding week of last year the mortality rate for Wilmington was 14.5, and for the group of cities as a whole, 14.6.

FLORIDA

Smallpox in Tampa.—The Tampa *Tribune* noted, March 7, that a total of 279 cases of smallpox had been reported in that city since the recent outbreak occurred, and that thirty-four of them were reported the previous week. There were then, it is said, a total of fifty-one cases in the city. There is a free vaccination clinic in the city hall. Dr. Ernest C. Levy, health officer, said that although about 50 per cent of the population of Tampa had been vaccinated, if the people do not cooperate with the health department in rounding up those who have neglected vaccination, smallpox will continue to be reported. Dr. Levy will also be head of the sanitary department by virtue of a new ordinance, which merges the health and sanitary departments under one head.

IOWA

Annual Clinic.—Physicians are invited to attend the annual clinic of the College of Medicine of the State University of Iowa at Iowa City, April 13-14; the clinic will be conducted by Dr. Campbell P. Howard, formerly professor of medicine at the state university and now at McGill University Faculty of Medicine, Montreal, and by Dr. McKim Marriott, dean and professor of pediatrics at Washington University School of Medicine, St. Louis.

Research in Cerebral Physiology.—Under the direction of Dr. Samuel T. Orton, director, Iowa Psychopathic Hospital, and head of the department of psychiatry, State University of Iowa, a two years program in research in cerebral physiology is being undertaken at the university, for which the Rockefeller Foundation has made a grant of $60,000. Two groups are at work; one, a field unit, holds psychiatric clinics in small communities to locate problem material; the other is the laboratory unit, consisting of the director and his executive assistant, an associate in neuro-anatomy and pathology, an assistant in neurophysiology, a teacher to work on methods for the corrections of disabilities, a research associate of the National Research Council, and a secretary; all of these give full time except the director. The general plan is to work on problems of "cerebral dominance" by studying cases of special disability in reading, writing and speech; to analyze the literature of cerebral anatomy and physiology, and to conduct experiments on animals.

LOUISIANA

Invitation to Visit en Route to Dallas.—The Ouachita Parish Medical Society extends a general invitation to members of the American Medical Association to attend the annual meeting of the Louisiana State Medical Society, which will be held in Monroe, April 15-17. This society will be pleased to entertain at this meeting members of the American Medical Association who are en route to Dallas.

Personal.—Dr. David A. Lines, collector of internal revenue for the department of Louisiana, has resigned, effective April 30, and will engage in the practice of medicine.——Dr. Leonard C. Chamberlain has been elected president of the clinical staff of the Presbyterian Hospital, New Orleans, succeeding Dr. Euclid J. Richard.——Dr. David E. Brown, Chatham, has accepted a position with the Louisiana State Board of Health as director of tuberculosis control.

MARYLAND

Personal.—Dr. Charles C. Hedges, U. S. public health director for Marshall County, W. Va., has accepted the position of second assistant director at the Johns Hopkins Hospital, and will be in charge of the dispensaries; he succeeds Albert W. Buck, who resigned to become director of the New Haven Hospital, New Haven, Conn.——Dr. Robert H. Riley, acting director of the state department of health, is making a study of state health work in North Carolina, South Carolina, Alabama and Tennessee.

Physician with Arctic Expedition.—Dr. Daniel O'Brien of the Johns Hopkins Hospital, left Baltimore, March 31, to join the arctic aerial expedition in command of Lieut. Comdr. Richard E. Byrd, Jr., U. S. Navy, retired, which sails from New York, April 2, for Spitzenbergen. Dr. O'Brien was head of the Grenfell expedition to the coast of Labrador in the summer of 1920; he graduated from Yale and the Johns Hopkins Medical School and served in the army during the World War, and spent two years in Egypt and the Near East; except for the Labrador expedition, he has been on the staff of the biologic department of the Johns Hopkins Medical School since returning from the Mediterranean countries.

MICHIGAN

Personal.—Dr. George F. Inch has been appointed general medical superintendent of the state hospital at Traverse City, and Dr. Roy A. Morter has been appointed assistant medical superintendent of the state hospital at Kalamazoo, to succeed Dr. Inch. Dr. Morter has been on the staff of the Kalamazoo Hospital a number of years.——Dr. Pitt H. S. Wilson, Muskegon, has been elected president of the Muskegon County Tuberculosis Association.

Instruction in Health.—Dr. William R. P. Emerson, Boston, will conduct a nutrition and public health institute at Grand Rapids, April 5-18, under the auspices of the Grand Rapids Child Health Bureau. There will be conferences and classes daily for (1) public health nurses; (2) members of the parent-teacher association, and (3) other interested groups. There will be demonstrations especially for teachers in the afternoon and a lecture every evening. Dr. Clyde C. Slemons, health officer, is general chairman of the committee in charge; one hour of college credit will be given those who complete the course and supplement the work with collateral reading. The subjects will cover social and mental hygiene, child behavior, child guidance, public health nursing, and home economics.

MISSOURI

Society News.—The Trudeau Club, St. Louis, will furnish the program, April 27, for the St. Louis Medical Society, and will present the modern conception of tuberculosis diagnosis and treatment; among the speakers will be Dr. Adelheid C. Bedal, whose subject will be "The Diagnosis of Concealed Tuberculosis;" Dr. Evarts A. Graham, "Thoracoplasty in the Treatment of Pulmonary Tuberculosis," and Dr. Joseph W. Larimore, "The Diagnosis and Treatment of Gastro-Intestinal Tuberculosis."

Donors for Blood Transfusion.—A committee of the Community Council of St. Louis is making a permanent list of donors for blood transfusion; sixty-seven persons have responded to the call. It is hoped that the list will be increased to 100, and that negroes as well as Caucasians will volunteer. The donors are being examined to rule out disease and to have their blood typed. The names of those accepted will be certified to the Central Nurses Registry; they will be placed at the service of all hospitals and reputable physicians in the city; eight hospitals are represented on the committee at present. It is planned to give donors a fee of $25; many have offered their services free of charge.

NEW JERSEY

Warning.—Prescription Books.—A correspondent writes that a well dressed man has visited the offices of several physicians in Newark, recently, when the doctors were out, and asked permission of the attendants to leave a note on the doctor's desk. When these physicians returned, they found that their liquor prescription books were missing.

Society News.—Dr. Richard A. Kern, associate professor of medicine, University of Pennsylvania School of Medicine, Philadelphia, addressed the Atlantic County Medical Society, Atlantic City, February 12, on "The Diagnosis and Treatment of Hay-Fever."——The Bergen County Medical Society, Hackensack, passed a resolution at its February meeting thanking the board of freeholders for its efficiency in keeping the county roads clear in spite of heavy snowfalls.

NEW YORK

Veterans' Hospital at Northport.—The director of the U. S. Veterans' Bureau has planned to construct a 1,000-bed fireproof hospital at Northport, L. I., on about 550 acres of land, which will comprise about twenty-five buildings and cost about $3,000,000. Construction will start early this spring.

Appointments and Promotions at State Hospitals.—The following appointments and promotions at state hospitals were reported in the February number of the *State Hospital Quarterly:*

Dr. Katherine C. Brockman, appointed assistant physician in Kings Park State Hospital.

Dr. Bernard J. Dolan, appointed assistant physician in Buffalo State Hospital.

Dr. J. B. Ferran, Jr., assistant physician in Binghamton State Hospital, promoted to senior assistant physician.

Dr. Ross D. Helmer, appointed medical director at Marshall Sanitarium, Troy, N. Y.

Dr. William E. Kelly, senior assistant physician in Middletown State Homeopathic Hospital, promoted to pathologist.

Dr. Louis F. LeSoine, assistant physician in Hudson River State Hospital, promoted to senior assistant physician.

Dr. Paul Levi, appointed assistant physician in Gowanda State Homeopathic Hospital.

Dr. Paul C. Lybyer, assistant physician in Hudson River State Hospital, promoted to senior assistant physician.

Dr. Christopher J. Patterson, appointed assistant physician in Hudson River State Hospital.

Dr. Albert Slutsky, appointed assistant physician in Kings Park State Hospital.

Dr. Ernest S. Steblen, assistant physician in Binghamton State Hospital, promoted to senior assistant physician.

Dr. Harry A. Steckel, senior assistant physician in Binghamton State Hospital, promoted to clinical director.

Dr. Nellie N. Tilton, assistant physician in Hudson River State Hospital, appointed assistant physician in Middletown State Homeopathic Hospital.

Dr. August E. Witzel, senior assistant physician in Utica State Hospital, transferred to the position of director of clinical psychiatry in Brooklyn State Hospital.

Dr. Claude R. Young, assistant physician in Binghamton State Hospital, promoted to senior assistant physician.

New York City

Seventh Harvey Lecture.—Dr. B. Brouwer, professor of neurology, University of Amsterdam, will deliver the seventh Harvey Lecture, April 17, in the evening, at the New York Academy of Medicine, on "Comparative Anatomy and Nerve Pathology."

Measles Serum Wanted.—The department of health will send an official to secure a specimen of blood for convalescent measles serum to any patient from whom the attending physician has obtained consent, and will reserve for the physician who obtained consent, a supply for his future use; from $10 to $25 will be paid to a poor patient who wishes to be paid for the specimen. The health department has been using convalescent serum as a prophylactic measure in infants exposed to measles during the last four years. The supply has been limited; recently, to obtain serum that it might be offered to a larger number of practicing physicians, the department sent a representative to Kentucky, there having been an epidemic of measles in the University of Berea, where for a small sum, sixty students were willing to contribute specimens; the expense entailed was paid by a New York life insurance company.

Hospital News.—The health commissioner, Dr. Louis I. Harris, in an address before the New York Visiting Committee of the State Charities Aid Association, March 4, deplored the condition of the city hospitals; he said, according to *New York Medical Week*, that "our hospitals today stand as a monument to things outgrown." The condition was attributed to old cement buildings which do not permit the installation of elevators and scientific administration. There are in some of the hospitals, it appears, "dirty kitchens" with adjacent "garbage heaps"; patients still have to cross the East River in old, open boats, subject to delay and exposed to the cold. Riverside Hospital was especially mentioned.——The Flushing Hospital Corporation, Flushing, has voted to begin a campaign, May 1, to raise $750,000 to enlarge the institution, for which a plot of ground has been secured at Elm Street and Parsons Boulevard.——Montefiore Hospital will build a new sanatorium for tuberculosis patients in the spring on the site of its present institution at Bedford Hills in Westchester County; the sanatorium will cost $1,500,000 and will accommodate 230 patients.

OHIO

Influenza at Cleveland.—Three hundred and fifty teachers were absent from the public schools of Cleveland, March 22, it is reported, largely because of an epidemic of influenza, which, it was said, also was largely responsible for the absence of about 12,000 pupils.

Miscellaneous Items.—The Toledo Safety Council has completed arrangements to equip all taxicabs with first aid kits.——Dr. Guy H. Swan has announced his retirement from active practice.——The children's building of the Clark County Tuberculosis Sanatorium will not open this year as planned, on account of a lack of funds.——A drive to raise a half million dollars in Akron to construct a children's hospital is expected to open this month.——Official charity in Ohio last year cost $9,572,470.35, the greater part of which was spent for the maintenance of the twenty-four state institutions.——Dr. William A. Koch of Bucyrus was fined $500 and costs in federal court, March 8, it is reported, after pleading guilty to a charge of issuing liquor prescriptions without having made a physical examination.——A group of citizens of Marion have presented an automobile to the city health department for the use of the "city health nurse."

PENNSYLVANIA

The Bedford Lecture.—Dr. Beverly R. Tucker, Richmond, Va., will deliver the Bedford Lecture, April 8, at the Duquesne Club, Pittsburgh, 7 p. m., on "The Doctor's Contribution to Literature." Members of the Allegheny County Medical Society are invited. Reservations for the dinner preceding the lecture can be made by calling Mrs. Risacher, Grant 0400.

Westmoreland County Annual Clinic.—The fifth annual clinic and banquet of the Westmoreland County Medical Society will be in Greensburg, May 6. The clinic will be at the

New Armory in the afternoon, and the banquet at the Country Club in the evening. Adjacent county medical societies are cordially invited to both functions. Dr. Elliott P. Joslin, clinical professor of medicine, Harvard University Medical School, Boston, and Dr. Frank H. Lahey, Boston, will conduct the clinic.

Personal.—Dr. and Mrs. William C. Mitchell celebrated their fiftieth wedding anniversary at a reception at the Hotel Rittenhouse, recently.——Dr. Edwin Bosworth McCready, Pittsburgh, addressed the Academy of Medicine of Richmond, Va., March 11, on "Nervous, Backward and Delicate Children."——Dr. Herbert H. Holderman, Philadelphia, has been elected chief surgeon at the new Locust Mountain Hospital, which has been in the process of construction for about ten years, it is reported. The state department of health will announce the opening date of the hospital within a short time.——Dr. Park A. Deckard has been appointed chief of the department of dermatology at the Harrisburg Hospital; Dr. Allen B. Dalton, Chester, has been appointed chief resident at the hospital.——Dr. George A. Reed has been elected president of the Erie Anti-Tuberculosis Society, to succeed the late Edward P. Selden.——Dr. William L. Steen has been reappointed health officer of New Castle.

Philadelphia

Personal. — Dr. Benjamin Lipshutz has been appointed attending surgeon of the Mount Sinai Hospital, Philadelphia.——A testimonial dinner, March 23, was given in honor of Dr. Francis Edward Stewart by the faculty of the Philadelphia College of Pharmacy and Science and friends.——The Medical Club of Philadelphia will give a reception in honor of Dr. Francis B. Haas, superintendent of public instruction of Pennsylvania, at the Bellevue-Stratford Hotel, April 16.

Society News.—Among others, Dr. Pascal Brooke Bland addressed the Northern Medical Association of Philadelphia, March 15, on "The Newer Advances in Obstetrics," and Dr. John F. Sinclair on "The Care of the Premature New-Born."——Dr. Francis Carter Wood, Columbia University College of Physicians and Surgeons, New York, addressed the Philadelphia County Medical Society, March 24, on "The Cause of Cancer with Special Reference to the Gye-Bernard Work"; Dr. John A. Kolmer, Dr. Jay F. Schamberg and Malcolm J. Harkins, on "Concerning Gye's Hypothesis of the Etiology of the Malignant Tumors," and Dr. George E. Pfahler, on "Present Value of Physical Agents in Treatment of Malignant Diseases."——Dr. Albert C. Buckley presented a case of chorea in the seventh decade with apparent recovery before the Philadelphia Neurological Society, March 26, and among others, Dr. Abraham M. Ornsteen discussed "Differences in Muscle Contraction in Peripheral and Central Facial Paralysis."

RHODE ISLAND

Dr. Scamman Resigns.—Dr. Clarence L. Scamman, deputy superintendent of health of Providence, resigned, April 1, and has accepted an appointment as deputy commissioner of health and director of the division of communicable diseases of Massachusetts; he has been with the Providence Health Department about four years. Dr. Scamman will also lecture at the Harvard University School of Hygiene, it is reported.

TEXAS

Dr. Hartman Appointed Acting Dean.—The Board of Regents of the University of Texas has appointed Dr. Henry C. Hartman, professor of pathology at the university, as acting dean of the medical school, to succeed Dr. William Keiller, who has remained on duty since tendering his resignation to the board last May. Dr. Keiller has been associated with the university as professor of anatomy, since 1891. Dr. Hartman has been associated with the pathology department of the university since 1908, and has been professor of pathology since 1913; he was formerly assistant state health officer and state bacteriologist; he served in the navy during the World War (The Journal, June 6, 1925, p. 1757).

WASHINGTON

Virulent Smallpox.—It was reported March 22, that eighty-four cases of virulent smallpox and twenty deaths had been reported in Seattle since January 21; about 25,000 persons in the city had been vaccinated in the last month.

WEST VIRGINIA

Society News.—The West Virginia Newspaper Publishers' Association voted unanimously at the annual meeting in Wheeling, February 12, to support the West Virginia State Medical Association in its campaign to educate the public in matters of health; Mr. Sterrett O. Neale, executive secretary of the medical association, among others, addressed the meeting.——Drs. Merrick F. McCarthy and William L. Shannon, Cincinnati, addressed the Kanawha County Medical Society, recently, on "Vertigo" and "Diagnostic and Prognostic Significance of Precordial Pain," respectively; the program for the February 2 meeting was a symposium on empyema by Drs. Robert Douglas Roller, Jr., Arthur A. Shawkey and John E. Cannady of Charleston.——The Barbour-Randolph-Tucker Medical Society authorized the secretary to provide the four members of the legislature and three members of the state senate with subscriptions to *Hygeia*, a journal of individual and community health, published by the American Medical Association.——Dr. John P. Griffith and James D. Heard, both of Pittsburgh, addressed the Ohio County Medical Society on "Ulcer of the Stomach and Duodenum" and "Prevention and Relief of Heart Disease," respectively.

GENERAL

Annual Dinner of Camp Merritt Officers.—The annual dinner of the Camp Merritt Base Hospital Officers' Association will be held, Saturday evening, April 10, at the Princeton Club, Park Avenue and Thirty-Ninth Street, New York City. Brig. Gen. James L. Kennedy, who, during the World War, was surgeon of the Port of Embarkation, Hoboken, N. J., and who now is assistant surgeon general of the army, will be the guest of honor.

Society of Medical Hydrology.—The International Society of Medical Hydrology will visit Czechoslovakia, and persons who would like to join the party should apply at once to the Honorary Secretary, 36 Devonshire Place, London, W. I., England; April 16 will be spent at Karlsbad; the party will then go to Marienbad, Franzenbad, Prague, where there will be a reception, Pistany, and, April 21, to Tatra Spas; at each place there will be scientific meetings.

Women Physicians.—Dr. Leora G. Bowers, Dayton, Ohio, president-elect of the Ohio State Medical Association, recently addressed the eighth councilor district at Lancaster on "Education for the Physician of the District."——Dr. Josephine Milligan, Jacksonville, Ill., has been elected president of the Morgan County Medical Society.——Dr. Florence M. Olmsted has been elected president of the board of health of Kokomo, Ind.——Dr. Esther Loring Richards, associate professor of psychiatry, Johns Hopkins University Medical School, Baltimore, recently addressed the annual meeting of Infant Welfare Society of Chicago on "Child Behavior."

Sanitary Regulations for Garages.—Tentative regulations for the manufacture and use of tetra-ethyl lead gasoline and for the sanitation of garages have been made by the Surgeon General of the U. S. Public Health Service and submitted to health officers of the various states for comment and suggestions. In formulating these regulations, the Surgeon General intends to establish approved standards of health in the manufacture and handling of dangerous chemicals. During the recent investigations of the public health service of the health hazard in the use of tetra-ethyl gasoline, it was found that lead was present in the dust of ordinary garages. There are thousands of garage workers throughout the country; the extent of this health hazard is apparent and the necessity for sanitary regulation is obvious.

Tables at Woods Hole.—The biologic laboratories of the U. S. Bureau of Fisheries at Woods Hole, Mass., Beaufort, N. C., and Fairport, Iowa, will open June 21, and remain in active operation until September 15. Owing to the increased demand for accommodations at Woods Hole, it is necessary to use more care in the selection of those who work at the laboratory; preference will be given to investigators who work along the lines of especial interest to the bureau of fisheries and who have shown ability for energetic and productive research. There is a new and well equipped laboratory at Fairport, Iowa, with collecting apparatus, ponds and tanks. Workers desiring to have the use of tables and other facilities at these laboratories may communicate with Henry O'Malley, Commissioner of Fisheries, Washington, D. C.

American Association for Medical Progress.—During 1925, the American Association for Medical Progress received requests for lectures from all parts of the country; it was possible to send a representative to speak in twenty-five cities in eleven states, and to confer with the deans of medical schools, health officers, heads of educational and research institutions and city superintendents of schools. The association distributed about 98,000 pamphlets to the public and its members, and the lay press published announcements and news items regarding medical discoveries and editorials about the work. There was interest in different parts of the country in the formation of local branches of the association, and one active branch was established at Santa Barbara, Calif. An obstacle to the formation of local branches is the problem of adequate division of financial responsibility, particularly where groups interested in health and related problems are affiliated through "community chests" or similar agencies; another obstacle arises from the desire of the association to be uninfluenced by the medical profession, since voluntary health organizations are in close cooperation with physicians in practically all cities. The association took no active part in 1925 in promoting or opposing legislation. The board of directors voted to raise the dues for associate members to $2 and to establish a class of special members, with an annual payment of $1 for teachers, trained nurses and associate workers. The Beth Israel Hospital, New York, voted to subscribe $1,000 a year for the work of the association and to designate five of their number as members. The activities of the year consisted largely, therefore, in making contact with interested groups in various parts of the country, in distributing printed material, in getting information into the newspapers, and in surveying the needs for further work.

News of Epidemics.—The recent epidemiologic reports note especially outbreaks of influenza; some state that the incidence of influenza is equal to or greater than in the pandemic of 1918; business houses and the public schools in some communities report many absentees, and some schools have closed. The severity of the epidemic, generally, has been reported as mild, although the number of deaths from pneumonia, which normally is high at this season, has been increased; for example, eighty-seven persons were reported to have died from influenza in New York City the week previous to March 21, and 608 persons died from pneumonia; this was said to be the greatest weekly number of deaths since the outbreak began. The rates of incidence and mortality of influenza in the army are noted in this issue under Government Services.——Several cases of cerebrospinal meningitis and one death were reported from Boise, Ida., March 20.——A new outbreak of three cases of smallpox occurred at Rockford, Ill., March 12; several cases of smallpox were reported from Mansfield, Ohio, March 18.——One hundred and seventy-six new cases of measles were reported during the week ending March 14, at Saginaw, Mich., bringing the total number under quarantine in the city to about 300; there had been 456 cases of measles reported in Louisville, Ky., between February 1 and March 15.——Grand Rapids, Mich., reported 308 cases of whooping cough for the month of February, as compared with eleven cases for February last year.——The secretary of the Indiana State Board of Health issued a warning, early in March, concerning the prevalence of rabies in Indiana, stating that seventy-nine persons who had been bitten by rabid dogs since Oct. 1, 1925, had been treated by the state laboratory, and that in the week preceding his report, five cases of rabies from different parts of the state had been identified through the examination of the brain of animals received at the laboratory.

CANADA

Tuberculosis Research.—Dr. Auguste Pettit of the Pasteur Institute, Paris, has accepted an invitation to take charge of the tuberculosis research work to be carried on at the University of Montreal, in connection with the dominion-wide program, planned by the Research Council of Canada. The details of the program at the University of Montreal will not be arranged until Dr. Pettit arrives; the university will have the medical and scientific direction of the hospital being erected at Cartierville, in which 200 beds will be allotted for tuberculosis patients. The other center of tuberculosis research in the Canadian program will be at the University of Toronto.

Extramural Postgraduate Work.—The Canadian Medical Association has appointed two committees for the purpose of organizing extramural postgraduate instruction, one for the province of Quebec, the chairman of which is Dr. Rodolphe Boulet, and the other a central postgraduate committee for the remainder of Canada. The latter committee is engaged in making a schedule of lectures in cooperation with the provincial associations and universities. There is interest, generally, in this work, the general secretary of the association observed in recent visits throughout Canada. The profession is being organized into sectional groups, which are ready to welcome the visiting speakers, and funds to the extent of $30,000 for one year have been received through a gift of the Sun Life Insurance Company.

LATIN AMERICA

Personal.—The *Repertorio de Medicina* of Bogota states that Dr. Miguel Jiménez López has been appointed minister from Colombia to Berlin, and Dr. Vergara Rey secretary to the Colombian legation, while Dr. Jorge Bejarano has been appointed secretary to the Colombian legation at Paris.——The national public health authorities, faculty of medicine and medical societies of Bogota joined in a tribute to Dr. Juan David Herrera, Bogota, on the completion of his fiftieth year of practice, presenting him with an illuminated parchment testimonial.——The past and present pupils of Dr. García Valenzuela, professor of physiologic chemistry at the university of Santiago de Chile, gathered on the occasion of his retirement from the chair he has held for thirty years to pay him honor and recall his contributions to chemistry and histology.——The *Clínica* states that Dr. E. Prado Tagle, president of the Santiago Medical Society, and many of the members are working industriously to organize the profession in Chile into a medical syndicate to study ways and means to promote the material welfare of the profession.——Dr. B. Galíndez, president of the Círculo Médico of Cordoba, has inaugurated a campaign against quacks, urging physicians throughout the province to obtain authentic proof of quack practices and injury therefrom so that collective data can be presented to the courts. The organized lawyers are working to have the laws modified to expedite legal relief from the plague of quackery.

FOREIGN

Competition in First Aid Supplies.—The international committee of the Red Cross is to hold at Geneva a competitive exhibition of litters, litter holders, cards for the wounded, and individual first aid packets. Specimens of the competing articles should be sent with full description to the organizing committee, promenade du Pin, 1, Geneva, Switzerland, before June 30, 1926.

League for Sexual Ethics.—The *Wiener klinische Wochenschrift* states that the society organized by Prof. E. Abderhalden, Halle, entitled the Medical League for Sexual Ethics, has been reorganized as a general society to include laymen, and to enlarge the scope of the work to include professional and social ethics. The name of the journal published by the society is *Ethik, Sexualethik und Gesellschaftsethik*. The official name of the society is now the Aerzte- und Volksbund fur Sexual- und Gesellschaftsethik, with headquarters at Magdeburgerstrasse 21, Halle.

Personal.—Drs. Moureu and Fourneau have been appointed to represent the French Académie de médecine at Paris in the Italian congress on pure and applied chemistry, to be held at Palermo in May.——A gold medal was recently presented to Dr. Angel Pulido, honorary director of the *Siglo Médico*, Madrid, perpetual secretary of the Academia Nacional de Medicina, by the Colegio de Doctores of the University of Madrid, in tribute to his services to medical science.——The Urologic Society of Vienna has elected Dr. A. Pulido Martin, Madrid, as honorary member.——Dr. Henry Plotz of the Pasteur Institute, Paris, France, has been made a foreign member of the Société de pathologie comparée.

New Clinical Research Laboratory in Australia.—A new building for the department of biochemistry at the Alfred Hospital, Queensland, Australia, said to equal any of its kind in Great Britain, was formally opened, January 22, by Dr. M. T. MacEachern of Chicago, who is in Australia surveying the hospitals. The new laboratory has nine rooms and is in charge of Dr. A. Basil Corkill. The upkeep of the department has been assured for five years by Mr. T. Baker, who intimated that if the department "makes good" his support would not be withdrawn at end of that period. Although now designated as a biochemical laboratory, the intention is to broaden its scope, so that it will be a clinical research institution.

Deaths in Other Countries

Dr. H. Kantor, who for thirty years from his home in Warnsdorf, Bohemia, waged a valiant fight against quackery, founding and publishing the *Gesundheitslehrer*, a special organ to combat medical fakers, aged 67. One of our German exchanges says, "All that has been accomplished here in recent decades in the fight against quackery is due mainly to Kantor."——Dr. **I. Bandi**, professor of hygiene and colonial pathology, Naples, and founder of the Istituto sieroyaccinoterapico, aged 59. Dr. **Arthur Robertson Cushny**, professor of materia medica and pharmacology, University of Edinburgh, died suddenly at his home in Edinburgh, February 25, of cerebral hemorrhage, aged 60. Dr. Cushny was formerly professor of pharmacology at the University of Michigan, Ann Arbor, from 1893 until 1905, and professor of pharmacology at University College, London, from 1905 to 1918. He was the president of the Section of Pharmacology and Therapeutics of the British Medical Association in 1910, and for years a member of the Scientific Grants Committee of that association. He was the author of a well known textbook on "Pharmacology and Therapeutics or the Action of Drugs"; his name is particularly associated with his work on the action of digitalis.——Dr. **Michael Francis Cox**, president of the Royal College of Physicians of Ireland in 1922, and a member of the privy council; senior physician to St. Vincent's Hospital, Dublin.——Dr. **John B. Story**, president of the Royal College of Surgeons in Ireland from 1918 to 1920, and president of the Ophthalmological Society of the United Kingdom, professor of ophthalmic surgery to the Royal College of Surgeons in Ireland, president of the Irish Medical Association in 1913, and surgeon oculist to the king in Ireland.

Government Services

Influenza in the Army

Influenza appeared in the army in mild epidemic form in January and increased in extent in February, the rates of incidence being 97.26 and 158.21, respectively. Influenza was more prevalent in February of this year, the Surgeon General's Office says, than during February of 1921, 1924 and 1925, but less prevalent than in February of 1920, 1922 or 1923. Up to February 20, no stations on the New England Coast or the Pacific Coast had reported an unusual number of cases of influenza, but stations in other parts of the country reported outbreaks. Fort Slocum, N. Y., had up to February 27 the most serious outbreak, with 286 cases and twenty-two cases of pneumonia. The most reliable indication of the severity of these outbreaks of influenza, the Surgeon's General's Office says, is the relative number of cases of pneumonia. The combined rate from the pneumonias in January was 5.20 and in February 7.69, which was considerably higher for January than during the corresponding month in 1925 (3.32), or in 1924 (3.52), but lower than in 1923 (5.33); it was lower, however, during February, 1926 (7.69) than in February, 1925 (8.84). It is apparent, it is said, that the army has had a rather extensive epidemic of influenza, but that it has been relatively mild.

Veterans' Bureau Medical Corps

An amendment to the World War Veterans' Act for the creation of the U. S. Veterans' Bureau Medical Service, which shall consist of a medical corps, a medical reserve corps and a nurse corps, has been approved by the house committee on World War veterans' legislation and is now on the calendar of the present Congress. Legislation of this character has for more than two years been under consideration by the Veterans' Bureau and has been the occasion for conferences by the director of the bureau, with members of Congress and President Coolidge. The object is to stabilize the medical personnel of the Veterans' Bureau. An important provision of the amendment is that "every person under the provisions of this act shall receive an increase of 5 per cent of the base pay for the period in which he is serving for each three years of service up to thirty years." In computing such service for members of the medical corps, there shall be counted the service of physicians in the U. S. Veterans' Bureau since Aug. 9, 1921, and all service on active duty in the medical service of the U. S. Veterans' Bureau. Provision is also made that each member of the medical corps, on active duty, shall be entitled to a money allowance for subsistence and for the rental of quarters, where public quarters are not available. The amendment is drawn along lines identical with those for the medical personnel of the army and navy. The present indications are that the war veterans' bill, which includes this amendment, will be passed at this session of Congress.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 6, 1926.

Lord Dawson on Osteopaths

Lord Dawson of Penn, physician to the London Hospital, addressed a meeting of members of both houses of parliament at the House of Commons on "The Medical Profession, the General Medical Council, and the Public." The meeting was organized by "the Parliamentary Medical Committee" (physicians who are members of parliament). He said that the merits of the subject had become obscured by personal grievances and heated comment. At present there was considerable criticism of the medical profession, and there were not a few suggestions that the physicians were actuated by selfish motives. Their critics misunderstood them. He asked them to contemplate the physician's life—his long hours, his sacrifice of ease and leisure, his contact with other people's troubles. Was it likely that such men would pursue a selfish policy? True, they had their foibles. They did not like a man who thought he had made a discovery making a secret of it; and if they found that associated with that secrecy there was gain, they claimed the right to cast him from them. This illustrated that in their ideals they put achievement before money. They liked their men, especially if they were successful, to give up some of their time to unremunerative work for the public good—it might be work in the wards of hospitals, in free clinics of their own, or in research laboratories. Further, they were philanthropic enough to inculcate principles of health which, if they were carried out, to a large extent would deprive them of their practices. It was a fortunate circumstance that the public did not always incline to follow their advice, and, therefore, the physicians were still in being. He laid down two guiding principles: (1) The good of the public should ever be the overriding consideration; and (2) the medical profession should use knowledge in whatever quarter it could be found, provided it was for the benefit of the people. They in no way contemplated that unqualified practice should be forbidden by legal enactment. They were concerned with whether it should receive recognition by the state and the medical profession. The necessary preliminary to the treatment of disease was knowledge of disease. To get this knowledge, the members of the medical profession went through five and one-half years' training. This training was necessary, whatever the physician's line of practice might ultimately be. It would be criminal in the interests of this nation to make the smallest compromise on this question—that there can be no treatment of disease by any one who has not made a thorough study of its nature and its diagnosis. If the osteopaths wished to further their cause, let them select able students and put them into the medical faculty of the university, and when trained let them espouse the cause of osteopathy. There was a place for the gifted bonesetter and the osteopath and for other skilled persons. They were welcome; but, to do good, all methods of treatment must be coordinated under general medical guidance. It was the medical profession's duty to protect the public from exploitation by "stunts" and fancies. On the personal side, Sir Herbert Barker by good fortune succeeded to the practice of the famous bonesetter Hutton. The success of manipulative surgery depended on the use of gifted fingers; in suitable cases such treatment was valuable, but when it was employed in unsuitable cases harm resulted. He admitted that the best of the manipulative surgeons were excellent, but the average men about the country were far from that; and when he thought of the "booming" of those manipulative surgeons by parliament and the press he thought it was laughable to hear their names proclaimed as great pioneers when Great Britain was the proud possessor of the man of genius in manipulative surgery whose reputation was world wide—Sir Robert Jones—whom they never mentioned. Sir Robert Jones had more wisdom in his little finger than the whole lot of them.

Death from Diphtheria Under Christian Science Treatment

The death of a school girl was inquired into by the coroner for West Kent. The child went to a boarding school associated with Christian science. While there last Thursday she developed a sore throat. The head of the school called in a physician, who said he thought it was a little septic, and that she had better be sent home. The mother was a Christian scientist. The child was taken home, and a Christian science treatment adopted. Monday morning the child seemed dangerously ill, and a physician was summoned who formed the opinion that the child was almost dying from diphtheria. He called in the health officer, who confirmed the opinion. Later the child died from diphtheria. A health officer went to the school and found another girl with diphtheria, who was removed to a hospital. He took all steps at once to have the place disinfected and the pupils examined. The mother said she telephoned to a Christian scientist when the child was brought home, and the work was begun the moment she ceased speaking. The coroner: "What is the nature of the treatment?"—"That is a deep question. When we are healers ourselves we can answer that." After a pause the witness added, "Prayer." She said that the name of the first practitioner was Commander Burt. She telephoned to him for immediate prayer. The next day the little girl had improved. Afterward a Mr. Cousins was called in and saw the child, and he told her to telephone if she wanted more help in the night. In the morning she telephoned him again and told him that the child had not had much sleep during the night and she thought it would be nice if she could have sleep during the day. He continued helping her. The coroner: "By prayer, you mean?"—"Yes. Always by prayer." "And prayer alone?" —"Yes. Oh absolutely, prayer and prayer alone. She was much better on the Sunday." The coroner: "If you had known that the child was suffering from diphtheria would you have still persisted in relying on the Christian science treatment?" The mother said she would have had a physician but would have continued with prayer, which no one could gainsay, as in a former case when the child had whooping cough. A juryman asked her whether she knew that had she called a physician the child would probably have been alive today. She replied: "It is a matter of opinion. I have known cases where friends have had specialists who had given them up and Christian scientists' prayers have restored them to life. So you see, one can never tell one way or another." Dr. P. D. Cogswell gave it as his opinion that death was due to syncope from diphtheria. The coroner said it was a very sad case. The mother held strange views from their point of view, but yet deep religious views. It seemed to her that the power of prayer could do more than science by the physician. She honestly believed that now, but she did go further, and say that if she had known the child was suffering from diphtheria she would have called in a physician at once, and also gone on with Christian science treatment. Was she guilty of such neglect as to make her criminally liable? He did not think there was any suggestion of that. There was no doubt she was very fond of the child, but was very misguided. The jury returned a verdict in accordance with the medical evidence. This means that no legal charge of neglect was made against the mother. This has always been the result in these sad cases, the jury evidently holding that, however misguided the parents, they cannot be blamed if they acted in good faith.

Antiquity of the Ape

In a lecture at the Royal College of Surgeons, Sir Arthur Keith reviewed the present state of knowledge relating to the antiquity of man's nearest relatives, the anthropoids. Describing finds in stratified deposits left to the west of Cairo in the estuary of a great vanished river, an ancient predecessor of the Nile, he said that in 1910 was found, in the deposits of older oligocene date, a fossil fragment of the lower jaw of an ape. That jaw gave most definite evidence that a small form of anthropoid ape—now represented by the gibbons, which inhabited the Malayan forests—had come into existence at this remote period. The modern gibbon was a pigmy compared to the gorilla or chimpanzee, but this ancient ancestor of the gibbon was a pigmy compared to its living descendants. The gibbon had sprung from an ancestor little bigger than the marmoset. A discovery made in 1924 by Dr. Fourtan of the Egyptian geological survey showed that in the miocene period the African gibbon had almost the size of its modern representatives. That the gibbon should have appeared so early in geological records did not surprise those who had studied its anatomy. In its structure it showed relationships to monkeys of the New World, to the ordinary monkeys of the Old World, and to the great anthropoids. The gibbon was the central figure in the evolutionary movement which led on to the highest primates. More important from the point of view of those who were in search of a possible human ancestor was the appearance in the miocene deposits of Europe of large anthropoids, which we had every reason to suppose were evolved from a gibbon-like ancestor. There were at least three species of large anthropoids in Europe in later miocene times. Not any of them reached the size of the chimpanzee. Some of the teeth assigned to this extinct type of European ape had a certain resemblance to those of primitive humanity. In the miocene deposits in the southern foothills of the Himalayas, officers of the Indian geological survey had discovered the remains of at least five great anthropoids. Some of these exceeded the chimpanzee in size. Some of them might represent ancestors of the gorilla, chimpanzee and orang. As the geological evidence stood, we might conclude that great anthropoids came into existence somewhere between the end of the oligocene period and the middle of the miocene period. It was not until a great anthropoid stage was reached that human evolution became possible.

Physician's Bequest of His Body

Sir Robert Charles Brown of Preston, Lancashire, consulting medical officer to the Preston Royal Infirmary and other institutions, who died, November 23, 1925, aged 89, left $403,580. To the Cambridge University Research Hospital, Sir Robert left $5,000 and his body, authorizing them to retain such parts of his body as they may consider to be suitable additions to their pathologic museum, and requesting them to place in the museum a glass bottle containing the ashes left by the cremation of his remains, together with a statement of the weight of the ashes and his "average normal weight, which has been 11 stones [70 Kg.]."

Food Poisoning from a Duck Egg

At an inquest on a woman, aged 24, Mr. John Webster, government analyst, stated that he found *Bacillus aertrycke* in enormous quantities in the organs. The woman and four other members of the family had a meal of duck's eggs, after which she was taken ill and died. Dr. D. L. Thomas, health officer for Stepney, stated that *Bacillus aertrycke* was relatively heat-resisting, and boiling for a time did not destroy it. As far as he could make out, there had been no record in the United Kingdom of any cases of food poisoning from eggs. There was no doubt that bacteria could penetrate the shell into the egg.

BUENOS AIRES

(From Our Regular Correspondent)

Feb. 8, 1926.

Control of Biologic Products

Heretofore, only imported serums and vaccines have been standardized. For the last two years, the national health department has been examining both imported and domestic organotherapic products, as well as foreign-made insulin. No control, however, has been exercised over domestic insulin and serums. This deficiency is about to be remedied. The director of the bacteriologic institute has suggested, and the president of the national health department has approved, the creation of a control office charged with the duty of supervising all serums, vaccines and biologic products, and testing their potency and sterility. This measure will be compulsory for both foreign and home products, including those manufactured by the bacteriologic institute itself.

Hospital Enlargement

The reconstruction of the Rawson Hospital is making much progress. There are now 1,200 men working in day and night shifts in order to complete the task within three months. Work will immediately be started on the Ramos Mejía Hospital. When this is completed, there will be 2,600 more beds available in the city hospitals. The cost of each bed is placed at not more than 2,500 pesos ($977). This is quite cheap, according to prices here. The committee in charge of the work authorized an expenditure of 1,100,000 pesos (about $430,000) in addition to the 18,000,000 pesos ($7,000,000), already voted for hospital improvements.

Dental Congress

The Second Latin American Odontological Congress, held recently here, has just issued its resolutions and conclusions. The next congress will be held at Rio de Janeiro, under the auspices of the Latin American Odontological Federation. The emblem suggested by Dr. Carrea was adopted. It was agreed that dentists must graduate as M.D.'s; that the standing of dentists serving in the army and navy must be raised; that dental courses must be unified in the different countries, and that the right of privileged communication must remain undisturbed.

New Journal

The Public Assistance Society, which receives part of its funds from the government, supports several large hospitals. In these, 354,323 patients were treated during the year 1924, and 15,028 operations were performed. The Children's Hospital and the Eye Hospital are already issuing journals of their own. The officers of the society have decided to publish another journal, entitled *Archivos de los Hospitales,* in which the scientific work done at its institutions will be recorded. The editor is Dr. A. Ovenard, and the editorial board includes Drs. P. de Elizalde, F. Etcheverry Boneo, S. Madrid Páez, A. V. Marque, H. Mascheroni, J. Nogués, A. Rodríguez Egaña and F. J. Soriano, of the different hospitals interested.

Tuberculosis Institute

The Agricultural and Veterinary School has offered a large lot to house the proposed Institute for the Study and Treatment of Tuberculosis, a new enterprise approved by the superior university board at the suggestion of Prof. G. Aráoz Alfaro. Its promoter started the collection of funds with a gift of 100,000 pesos (about $39,000), but the money is coming in very slowly.

Insurance Societies Run by Physicians

While large insurance companies as well as friendly and accident insurance societies that have developed in the last few years had showed large surpluses, the physicians employed by them have received scanty salaries. This started a movement, headed by the Argentine Medical Syndicate, for higher medical fees. Then the physicians started in their turn general insurance societies, especially for workers and salaried persons. "La Primera," the first to organize in Buenos Aires, has already met with much success and general approval. Local physicians are now trying to launch a similar society here under the name of "Unión Médica."

Personal

Drs. J. Ferrán and A. Gimeno, Count of Gimeno, are expected in Argentina this years from Spain. Ferrán is known for his cholera vaccine and his views on the mutation of the tubercle bacillus. He has here quite a number both of followers and adversaries. The technical inadequacy of his publications almost prevents full verification of his studies.

GENEVA

(From Our Regular Correspondent)

March 1, 1926.

Effects of Dry Cupping

Recently, Dr. Jules Droin, at the Medical Clinic of the University of Geneva, investigated the effect of dry cupping on the leukocyte count and on the arterial pressure. His results have not yet been published. Of Droin's twenty cases, 65 per cent developed a leukopenia apparently due to the action of cupping; in 10 per cent the leukocytes decreased before the application of the cups; in 10 per cent there was a leukocytosis throughout the application, followed usually by a slight decrease in number. In 15 per cent no conclusions could be drawn, as the oscillations in the number of leukocytes were either insufficient or else offered no apparent relation to the action of the cupping. These results throw a new light on the contradictory results obtained by other observers. Fleury's white hypoglobulia probably is merely the leukopenia of shock, and the hyperphagocytosis of the Italian observers probably corresponds to the leukocytosis present in Droin's cases. Both maximum and minimum blood pressures were taken in sixteen of the twenty cases. In thirteen cases the drop in the maximum pressure averaged 8.43 per cent; in the minimum, 3.7 per cent. Droin found that the diastolic pressures corresponded with those of the maximum pressure, and he believes that a study of the latter is sufficient for the study of hemoclastic shock. Of the sixteen cases, 50 per cent were positive, 25 per cent doubtful and 25 per cent negative. Taking the total of twenty cases, 50 per cent were positive, 20 per cent doubtful and 30 per cent negative. Droin concludes that in the majority of his cases shock comparable to hemoclastic shock followed the application of the cups.

Problems of Heredity

In the course of two public educational days last month, the subject discussed was heredity. A. Ferriere explained the various theories of heredity and demonstrated the reality of acquired characters. He defined the biogenetic law as "a parallelism of childhood and race" and stated that this parallelism was a reality. The speaker pointed out that children's play has its origin in ancestral rites, hence an attempt should be made in directing children's play to graft new activities on ancient instincts.

Alcoholism and heredity was discussed by Dr. Oettli, chief secretary of the Swiss Antialcoholic Society. He pointed out that there were three times more tuberculous and degenerate children in alcoholic families than in others. Although poor housing, insufficient food and other causes enter into the etiology of this condition it was probable that soon we would have proof that the nucleus of reproductive cells would show changes produced by alcohol.

Dr. Tecon, physician to the hospital La Source at Lausanne, discussed tuberculosis and heredity. The idea that tuberculosis is always hereditary is false. It is essential that the children of tuberculous parents should be separated from the source of contagion.

Psychic heredity was dealt with by Dr. O. L. Forel, physician to the Metairie, at Lyons. Dr. Forel defended the rights of defective children, because they do not possess the means for overcoming the difficulties of life. They must be made to understand the necessity of marrying healthy partners in order to prevent mental defects in the offspring.

Edward Claparede, professor of psychology in the University of Geneva, lectured on evidence. Evidence is the recital of a previous event; it usually is false, although the witness does not intend to deceive. Evidence given by children is most often inexact; the child puts forward purely imaginary facts which he believes to be real.

Hypertonia or Essential Hypertension

The monthly lecture of the Medical Society of Geneva was delivered, February 25, by Dr. Emile Thomas of Geneva, his subject being Hypertonia or Essential Hypertension. In certain subjects a more or less constant high pressure was observed although none of the ordinary cardiovascular or renal lesions could be found clinically. Temporary hypertensions, such as Pal has described in lead poisoning and certain other conditions and the hypertonia observed by Ambertin in angina pectoris, are not to be included in the conditions under consideration. Renal and cardiovascular lesions cannot be absolutely eliminated. When the practitioner, after thorough examination, is unable to discover any lesions, his duty is to look elsewhere for the cause of the disturbance. The pathogenesis of these conditions is probably multiple. Dr. Thomas' personal researches, soon to be published, show that, in the rabbit, increased cholesterinemia produces a durable hypertension.

NETHERLANDS

(From Our Regular Correspondent)

Feb. 9, 1926.

Physicians of Railway Companies

The association of railway physicians has just celebrated its fiftieth anniversay. In his presidential address, Dr. Posthuma recalled the history of the association, which was founded to study the organization of first aid to the injured. The association developed until in 1899 a council was formed, which subjects the personnel to examination. The examinations as to fitness have been applied with rigor in order to insure security in passenger traffic. This has been due to the activities of the council. The president disapproves of free choice of physicians in the railway medical service, for the problems are of a special nature and can be solved only by physicians trained for the work. Besides examining applicants for employment, railway physicians watch over the personnel already in the service, to which is due in great measure the security of traffic.

Vaccination Against Pertussis

The Rijks serologisch Instituut of Utrecht recently supplied a number of physicians with a pertussis bacillus vaccine together with a questionnaire. Dr. Pondman has collated the results reported. Sixty-one replies endorsed vaccinotherapy, as against seven that reported more or less doubtful results. The reactions were very slight. Vaccinotherapy must be employed early, and it is more efficacious if the vaccine is polyvalent.

Periodic Medical Examinations

Certain life insurance societies that have relations with foreign organizations are advising their clients to undergo periodic medical examinations. This applies particularly to those who are insured for at least 5,000 florins ($2,000). The societies offer free examination by one of their physicians every three years. It is only a prophylactic measure against insidious disease and is not obligatory. Both patient and life insurance society will be benefited. In order to safeguard the prerogatives of the insured, no information will be given by the physician to the life insurance company.

Outings for Children

The Amsterdam society that provides rural outings for weakly and anemic children has been very active. The society has been able to comply with about 55 per cent of the demands made on it and has afforded about 5,000 children the opportunity of such a vacation. A comparative study indicates that winter outings are just as beneficial as those given in summer.

Dental Aid for Persons of Restricted Means

At Amsterdam an association entitled Amsterdamsch medisch Instituut voor Tandheelkunde has been formed to aid persons of restricted means to secure dental care. In this manner it proposes to combat the practice of dentistry by inexperienced persons, so-called dental mechanics, and to awaken greater interest in mouth hygiene. It is thought that the work will eventually give rise to a group of medical stomatologists. Fears have been expressed by regular graduate dentists that their practices will be interfered with. However, the dental clinic will accept only patients who can pay a moderate but not a private dentist's fee. Then, again, the agitation in favor of mouth hygiene will show to the whole population the necessity of dental care. In this manner, what is lost in one way will be regained in another. The institute will not be administered for profit, but free treatment will not be given. The fees paid must cover the cost of the equipment and the operating and administrative expenses.

Regulations Pertaining to the Sale of Milk and Bread

A new law provides that the following persons be excluded from the manufacture, the handling and the transportation or distribution of bread: persons affected with abscess, suppurating wounds or cutaneous diseases of the head, arms or hands; likewise, all germ carriers (typhoid, paratyphoid, dysentery and cholera). Similar restrictions guard the production and marketing of milk. If anything, they are even more strict.

An Antituberculosis Film

Utilizing the funds raised through subscriptions collected by the Green Cross of Groningen, the central antituberculosis commission has had a film prepared to enlighten the people in regard to tuberculosis. The film does not inspire fear but awakens rather the hope of recovery owing to the treatment made available through the antituberculosis organizations. The scene opens with a shoemaker working in his shop. He begins to observe symptoms of tuberculosis but refuses to pay a visit to the antituberculosis dispensary. The spectator is brought face to face with the dangers of crowded dwellings and sees that infection, once in the home, is bound to contaminate the children. One day the shoemaker happens to enter the antituberculosis museum, where a physician explains to him the pathology and the dangers of tuberculosis. He comes out an enlightened man. Shortly his improvement as the result of the good care he receives is noticeable. There pass successively across the screen views of attractive sanatoriums and beautiful parks for convalescents. Finally, after leaving the sanatorium, almost fully restored to health, the shoemaker is seen working at his trade in the open air, in a postsanatorial therapeutic center. In the meantime, a nurse has taken care of his children, having taken them to a maritime colony in the country. They, also, return much improved in health by their outing.

Life Expectancy of Physicians

In an article in the *Nederlandsch Tijdschrift voor Geneeskunde,* Dr. De Wilde gives some of the results of his researches on the life expectancy of physicians. Greene in his book "Examination for Life Insurance" makes the statement: "Judged strictly by mortality tables, the doctor would be a poor risk." De Wilde's researches cover 2,500 physicians who have died since 1861. The average age at which the group began to practice was found to be 25. The average age at which death occurred was 59.6, whereas the average age of death of the male population during the same period was 64.8. The percentage of physicians dying in the various decades is shown in the subjoined table.

Percentage of Physicians Dying at Various Ages

Age	Percentage
From 25 to 35	8.06
From 35 to 45	9.5
From 45 to 55	14.88
From 55 to 65	20.38
From 65 to 75	24.28
From 75 to 85	16.78

BERLIN

(From Our Regular Correspondent)

Feb. 20, 1926.

Tuberculosis Mortality Among Miners of the Ruhr Region

The tuberculosis mortality of the miners of the Ruhr region before the war was lower than in almost all other dust-producing industrial occupations, and lower than the average mortality for Germany as a whole. This is partly explained by the fact that in the mines more often than in other industries, workmen whose physical condition was below par were excluded. Another circumstance that contributes to the low mortality among miners is the earlier age at which they may be put on the pension list for invalidism or permanent total disability. Dr. Grünewald of Dortmund has pointed out that among underground workmen droplet infection can scarcely occur; furthermore, sputum expectorated on coal, owing to the damp coal dust, is not likely to be carried in floating dust particles. Many believe another factor is that, owing to the high wages that miners received before the war when compared with the lower price that they paid for food, they were able to supply themselves with especially good food. Soon after the beginning of the war, the food supply became deficient and prophylactic measures came to be neglected. These circumstances exerted an unfavorable influence on the tuberculosis mortality of the whole population, including the miners. The adjoining table shows the mortality from pulmonary tuberculosis in the mining industries of the Ruhr region in Prussia and in Germany in the period from 1910 to 1924.

Mortality per 10,000 from Pulmonary Tuberculosis Among:

	Members of the *Ruhr Mining* Association	*Inhabitants of* Prussia	*Inhabitants of* Germany
1910	7.86	13.4	13.0
1911	7.39	13.4	13.6
1912	6.40	12.9	13.1
1913	6.16	11.9	12.1
1914	7.29	12.2	12.2
1915	9.59	12.8	12.8
1916	11.45	13.9	13.9
1917	16.82	18.4	18.0
1918	21.68	20.9	20.2
1919	17.34	18.8	18.2
1920	10.22	13.3	13.0
1921	9.19	11.8	11.5
1922	11.23	12.4	12.0
1923	14.99	....	....
1924	9.26	....	....

In the main, the tuberculosis mortality among the Ruhr miners before, during and since the war has been subject to the same fluctuations as among the remaining population. With the exception of the years 1922 and 1923, which correspond with the period of depreciation of the currency and the passive resistance in the Ruhr during which wages and the cost of living did not stand in the proper relation, it will be seen that the mortality rate of the Ruhr miners is approaching the prewar figure. In connection with the high mortality rate during the war years, it must be recalled that the healthiest of the miners had been drafted into the army. Their places had been taken, for the most part, by old or youthful persons, and, in addition, the medical examinations for admission to the mines were not so strictly carried out as before the war. The fact that the rate in 1924 is not as low as that of the prewar period is partly because the weaker workmen selected during the war years as a rule remained in the mines. Also, a shortening of the shifts has necessitated a larger number of workmen, and with the increased demand for men the vigilance of the examiners may have relaxed somewhat. Other factors are the large number of refugees from the war zones who have been given employment and the bad housing situation. In spite of these adverse conditions, the percentage of deaths from pulmonary tuberculosis among the miners of the Ruhr region is considerably below the average for the country as a whole. No doubt the general improvement in wages and in living conditions exerted a favorable influence on the mortality rate for 1924.

Death of Prof. J. Israel

Prof. J. Israel, the well known surgeon, died, February 20, at the age of 78. Up to a few weeks before his death he performed difficult operations. The apparent cause of death was a latent gastric carcinoma. In spite of his advanced age, he enjoyed unusual health and vigor up to the beginning of his illness. His renewed activity in recent years was, to be sure, forced upon him. With the completion of his seventieth year he had given up the directorship of the surgical department of the Jewish Hospital, and it was doubtless his intention soon to retire from private practice. But the financial crisis brought on by inflation of the currency left him, like many others, without adequate means of support, so that he was compelled to continue his professional work. He was a remarkable diagnostician and surgical technician. Israel was indebted for diagnostic ability to his teachers Traube and Langenbeck. He was Langenbeck's assistant when the latter was in charge of the surgical department of the Jewish Hospital. It was owing to Langenbeck's recommendation that Israel became his successor. Although Israel never formally assumed an academic career, he nevertheless became the teacher of many physicians in this and foreign countries, which circumstance led to his being frequently chosen by foreign physicians to serve as consultant. His fame as an investigator was based on two main achievements: his discovery of the rôle of the Actinomyces parasitic fungus in human pathology, which was first set forth in a monograph appearing in 1885, and his epoch-making articles on kidney surgery. Especially important was his demonstration that tuberculosis of the kidney in many—possibly most—cases is primary and is not due to the upward trend of a bladder infection, as was formerly assumed. This demonstration opened up the possibility of eliminating kidney tuberculosis by extirpation of the diseased organ. His monograph, published in 1894, on "Experiences with Kidney Surgery" occasioned something of a sensation. In 1901, he published an enlarged edition entitled "Clinical Surgery of Kidney Diseases." Numerous further scientific treatises included all fields of surgery. His plastic operations were especially significant. In Berlin society, and especially in medical circles, he held a high position. He was vice chairman of the Berliner Medizinische Gesellschaft, and an honorary member of the Deutsche Gesellschaft für Urologie and of several foreign surgical societies.

Marriages

Arthur F. Smith to Miss Isabelle Amundson, both of Milford, Iowa, January 6.

Dennis H. Kelly, Clinton, Iowa, to Miss Ailen Carney of Grinnell, January 4.

Isaac J. Townes, Madisonville, Ky., to Miss Laura E. Hoffman of Mayfield, March 11.

Deaths

Harry Merriman Steele, New Haven, Conn.; Johns Hopkins University Medical Department, Baltimore, 1902; past president of the New Haven County Medical Society; member of the Connecticut State Medical Society, and the New England Pediatric Society; assistant in pediatrics, University and Bellevue Hospital Medical College, 1902-1904; clinical professor of pediatrics, Yale University School of Medicine, and for several years instructor in pediatrics and assistant in pathology; on the staffs of the Charlotte Hungerford Hospital, Torrington, and St. Raphael's Hospital, New Haven; aged 54; died, March 18, of lobar pneumonia.

Henry Fauntleroy Harris, Atlanta, Ga.; Atlanta Medical College, 1889; Jefferson Medical College of Philadelphia, 1890; member of the Medical Association of Georgia, and the American Association of Pathologists and Bacteriologists; professor of chemistry, Southern Medical College, 1892-1896, associate professor of pathology, Jefferson Medical College, 1896-1901, and professor of pathology and bacteriology, Atlanta College of Physicians and Surgeons, 1901-1910; formerly secretary of the Georgia State Board of Health; aged 59; died, March 18, at the Jefferson Hospital, Philadelphia, of paralysis.

George Washington McDowell, New York; New York Homeopathic Medical College, 1886; emeritus professor of ophthalmology, otology and rhinology at his alma mater; member of the New York Academy of Pathological Science; on the staffs of the Flower Hospital, New York Ophthalmic and St. Gregory's hospitals, Laura Franklin Free Hospital for Children, Protestant Half-Orphan Asylum and the Methodist Episcopal Church Home; aged 65; died, March 16, at New Rochelle, N. Y.

Howard A. Hellyer, Penns Park, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1868; member of the Medical Society of the State of Pennsylvania; past president of the Bucks County Medical Society; secretary of the county school board since 1885; aged 80; died, March 12, at the Samaritan Hospital, Philadelphia, following a long illness.

Thomas J. W. Burgess, Montreal, Que., Canada; University of Toronto (Ont.) Faculty of Medicine, 1870; formerly professor of mental diseases, McGill University Faculty of Medicine; at one time superintendent of the Protestant Hospital for the Insane; member of the American Psychiatric Association; aged 76; died, January 18.

George Minot Garland ⊕ Wellesley Farms, Mass.; Medical School of Harvard University, Boston, 1874; assistant in physiology, 1877-1881, and assistant and instructor in clinical medicine, 1881-1892, at his alma mater; formerly on the staff of the Massachusetts General Hospital, Boston; aged 77; died, March 2.

Harry J. Hornbogen ⊕ Marquette, Mich.; College of Physicians and Surgeons, Chicago, 1894; secretary of the Marquette County Medical Society; member of the board of education; formerly on the staff of St. Luke's Hospital; aged 54; died, March 17, at Hollywood, Calif., of heart disease.

Henry Morton Hall, Cedartown, Ga.; University of Georgia Medical Department, Augusta, 1899; member of the Medical Association of Georgia; part owner of the Hall-Chaudron Hospital; formerly mayor of Cedartown; served during the World War; aged 56; died, March 14, of myocarditis.

Thomas John Sullivan, Jr. ⊕ Chicago; University of Illinois College of Medicine, Chicago, 1915; member of the Chicago Orthopedic Club; on the staff of the Mercy Hospital; served during the World War; aged 36; died, March 23, of chronic nephritis.

Joseph Alphonse Kene ⊕ Brooklyn; Medical Department of the University of the City of New York, 1878; chief medical examiner of the Municipal Civil Service Commission since 1898; member of the Brooklyn Neurological Society; aged 69; died, March 11, of heart disease.

Harry Lavelle Murphy, Pittsburgh; Georgetown University School of Medicine, Washington, D. C., 1912; member of the Medical Society of the State of Pennsylvania; served during the World War; aged 38; died, February 10, at the Southside Hospital, of pneumonia.

Charles A. McCollum, Pasadena, Calif.; Rush Medical College, Chicago, 1868; formerly connected with the Medical Department Hamline University, Minneapolis; at one time on the staff of St. Mary's Hospital, Minneapolis; aged 78; died, January 22.

Virgil Maro Dow Marcy, Jr. ⊕ Cape May, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1900; formerly president of the board of health and board of education; served during the World War; aged 47; died, March 8.

J. Brown Wallace ⊕ Tampa, Fla.; University of Maryland School of Medicine, Baltimore, 1897; served in the M. C., U. S. Army, during the World War; on the staff of the Bayside Hospital; aged 52; died, Dec. 31, 1925, of pneumonia.

Frederick L. Wakeham, New York; Medical Department of Columbia College, New York, 1892; formerly on the staffs of the Mount Sinai and Sydenham hospitals; aged 55; died, March 4, at New Rochelle, following a long illness.

Wyclif Kerr Curtis, Midland, Texas; Jefferson Medical College of Philadelphia, 1878; member of the State Medical Association of Texas; county health officer; aged 73; died, February 27, at a hospital in El Paso, of pneumonia.

William J. Burd ⊕ Belvidere, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1889; formerly president and secretary of the Warren County Medical Society; aged 60; died, March 5, of heart disease.

Charles Hervey Bailey, New York; Medical School of Harvard University, Boston, 1910; member of the Medical Society of the State of New York, and the New York Pathological Society; aged 44; died, March 1.

Christian R. Scheller ⊕ Hagerstown, Md.; Jefferson Medical College of Philadelphia, 1883; formerly president of the board of health; for several years county and city health officer; aged 64; died, March 5.

Thomas Henry Welsch, Hannibal, Mo.; Barnes Medical College, St. Louis, 1904; aged 43; was killed, March 1, near Wentzville when the automobile in which he was driving went over an embankment.

John Percival Hewson, Orange, Texas; University of Pennsylvania School of Medicine, Philadelphia, 1913; aged 38; died, February 27, at St. Joseph's Hospital, Denver, of pulmonary tuberculosis.

Alva Rufus Hull, Nampa, Idaho; Northwestern University Medical School, Chicago, 1898; served during the World War; aged 53; died, March 10, of a gunshot wound, presumably self-inflicted.

John Warren Holt, Eminence, Ky.; Louisville Medical College, 1897; member of the Kentucky State Medical Association; aged 54; was found dead in bed, March 2, of chloroform poisoning.

George Wicks Spencer ⊕ Philadelphia; Jefferson Medical College of Philadelphia, 1892; formerly associate professor of surgery at his alma mater; aged 55; died, March 7, of uremia.

Dewees A. W. Huebner, Fern Glen, Pa.; Jefferson Medical College of Philadelphia, 1886; member of the Medical Society of the State of Pennsylvania; aged 62; died, Dec. 1, 1925.

Joseph Merrell Hamblin, San Francisco; California Eclectic Medical College, Los Angeles, 1918; aged 32; died, January 5, at the San Francisco Hospital, of chronic bronchitis.

Joseph L. Isenberg, Williamsburg, Pa.; Jefferson Medical College of Philadelphia, 1893; member of the Medical Society of the State of Pennsylvania; aged 57; died, Nov. 17, 1925.

James Crowe Burdett, Evelyn, La.; Memphis Hospital Medical College, 1905; served during the World War; aged 49; died, February 16, at the Mansfield (La.) Sanitarium.

Charles Augustus Adams, Des Moines; Meharry Medical College, Nashville, Tenn., 1906; member of the Iowa State Medical Society; aged 48; died, January 26.

William L. Newton, Camden, Ark.; Memphis Hospital Medical College, 1899; formerly postmaster; aged 50; died, February 26, of heart disease.

⊕ Indicates "Fellow" of the American Medical Association.

Theophilus J. Langlois, Wyandotte, Mich.; Detroit Medical College, 1871; health officer of Wyandotte for forty years; aged 86; died, March 3, of hypostatic pneumonia and senility.

Henry Croskey, Kansas City, Mo.; Hahnemann Medical College of Philadelphia, 1878; aged 77; died, February 19, at St. Luke's Hospital, of cerebral hemorrhage.

Amos Bryan Krebs ⊕ Bolivar, Pa.; Cincinnati College of Medicine and Surgery, 1886; aged '62; died, February 10, at the Memorial Hospital, Johnstown, of diabetes.

Earl Percy Cushman, Claremont, N. H.; University of Vermont College of Medicine, Burlington, 1900; served during the World War; aged 52; died, February 23.

Henry W. Kriege, St. Louis; St. Louis Medical College, 1885; Homeopathic Medical College of Missouri, St. Louis, 1888; aged 67; died, February 27, of anemia.

William Stump, Emmorton, Md.; University of Pennsylvania School of Medicine, Philadelphia, 1895; aged 57; died, February 3, of angina pectoris.

George Stephen Mikkelsen ⊕ Kewanee, Ill.; Chicago College of Medicine and Surgery, 1907; aged 43; died, March 9, at a hospital in Chicago.

Robert Stanley Minnes, Ottawa, Ont., Canada; Queen's University Faculty of Medicine, Kingston, 1893; aged 55; died, Dec. 27, 1925.

John Calvin Rush, Eatontown, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1896; aged 71; died suddenly, March 3.

Bryan DeForest Sheedy, New York; Medical Department of the University of the City of New York, 1885; aged 61; died, March 5.

Jonathan McCully, Cedar Springs, Ont., Canada; Victoria University Medical Department, Toronto, 1866; aged 91; died, Dec. 22, 1925.

Byron A. Smith, Erie, Pa. (licensed, Pennsylvania, 1881); formerly a druggist; aged 83; died, February 25, following a long illness.

Thomas Walker, St. John, N. B., Canada; L.R.C.S., Edinburgh, 1863; University of Edinburgh, 1863; aged 85; died, Dec. 25, 1925.

E. L. Crumpler, Merry Hill, N. C.; Medical College of Virginia, Richmond, 1893; died, February 20, of influenza and asthma.

John L. Cassilly, St. Louis; Missouri Medical College, St. Louis, 1867; Civil War veteran; aged 81; died, February 21, of senility.

Robert Gerstell, Keyser, W. Va.; University of Maryland School of Medicine, Baltimore, 1873; aged 76; died in February.

Neville James Lindsay, Calgary, Alta., Canada; Trinity Medical College, Toronto, Ont., 1874; aged 80; died, Dec. 17, 1925.

Charles Sherman Jewett ⊕ Buffalo; Medical Department of Columbia College, New York, 1890; aged 60; died, Nov. 5, 1925.

James Neeper Richards, Fallsington, Pa.; Bellevue Hospital Medical College, New York, 1873; aged 76; died, January 19.

John Benson, Colfax, Wash. (licensed, Washington, 1885); for many years county health officer; aged 76; died, January 27.

John Charles C. Grasett, Simcoe, Ont., Canada; Trinity Medical College, Toronto, 1887; aged 63; died, Dec. 14, 1925.

George A. Yates, Cleveland; University of Nebraska College of Medicine, Omaha, 1889; aged 65; died in February.

Christopher C. D'Armond, Knoxville, Tenn.; University of Louisville School of Medicine, 1884; aged 78; died recently.

Hiram Wigle, Wiarton, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1875; died, January 4.

Aaron Rivkees ⊕ Philadelphia; Medico-Chirurgical College of Philadelphia, 1913; aged 47; died, February 10.

Caleb Blyholder, Pittsburgh; Jefferson Medical College of Philadelphia, 1873; aged 83; died, February 24.

James McComb, Lebanon, Mo.; Jefferson Medical College of Philadelphia, 1865; aged 93; died, March 6.

Frederick Ernest Schmidt, Muscatine, Iowa; Keokuk Medical College, 1891; aged 56; died, January 8.

Edward Reese Cook, Vicksburg, Miss.; St. Louis Medical College, 1877; aged 69; died, February 10.

George O. Baxter, St. John, N. B., Canada; Detroit Medical College, 1885; died in December, 1925.

The Propaganda for Reform

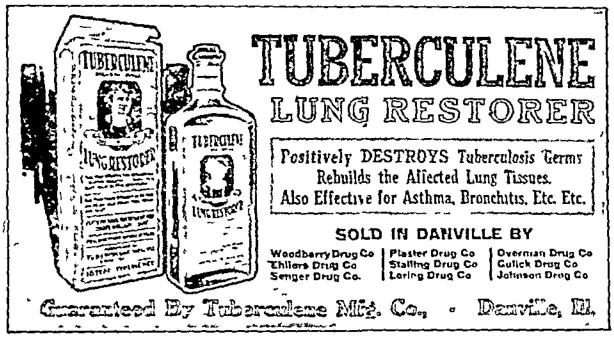
In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

TUBERCULENE

A Fraudulent Consumption Cure Debarred from the Mails

For over a year a rather self-evident fraud has been exploited from Danville, Ill., under the trade name Tuberculene Manufacturing Co., by one Mrs. G. J. Murrman, who sold "Tuberculene," a "lung restorer." The price was $3 for fifteen days' treatment. The preparation was put on the market so crudely that it not only obviously violated the federal Food and Drugs Act but its sale constituted fraudulent use of the United States mails. March 8, 1926, Postmaster General Harry S. New, on the recommendation of Judge Horace J. Donnelly, Solicitor of the Post Office Department, issued a fraud order against the Tuberculene Manufacturing Co. and its officers and agents at Danville, Ill.

Judge Donnelly's memorandum to the Postmaster General describes the case against this swindle. December 15, 1925, the Tuberculene Manufacturing Co. was called on to show cause why a fraud order should not be issued against it. December 21, J. J. Carter, an attorney of Danville, Ill., filed a brief on behalf of Mrs. G J. Murrman



TUBERCULENE
LUNG RESTORER

Positively DESTROYS Tuberculosis Germs
Rebuilds the Affected Lung Tissues.
Also Effective for Asthma, Bronchitis, Etc. Etc.

SOLD IN DANVILLE BY

Woodberry Drug Co	Plaster Drug Co	Overman Drug Co
Ehlers Drug Co	Stalling Drug Co	Gulick Drug Co
Senger Drug Co.	Loring Drug Co	Johnson Drug Co

Guaranteed By Tuberculene Mfg. Co., • Danville, Ill.

The Solicitor's memorandum declares that Mrs. Murrman is an uneducated, middle-aged woman, who was exploiting Tuberculene as a cure for tuberculosis and other conditions. Her method was to insert in newspapers circulating through the mails in the vicinity of Danville an advertisement reading as follows:

TUBERCULENE
Destroys All T. B. Germs.
Heals Up the Lungs.
Why Put Up with T. B., Asthma, Flu,
Bronchitis, Coughs or Colds of Any Kind?
Tuberculene Gets Rid of These Ailments
Lung Restorer and Germ Destroyer.
Guaranteed If Taken According to Directions.

No individual with intelligence enough to publish a newspaper could, in this age and day, believe that this advertisement is bona fide. One of the main reasons that the mail-order medical quack plies his trade is that there are newspapers or magazines that will accept his advertising and become the intermediary for the contact between the swindler and the swindled.

The postal authorities, in investigating Tuberculene, had one of the inspectors enter into test correspondence with the Tuberculene Manufacturing Co. for the purpose of obtaining information respecting the representations under which Tuberculene was sold through the mails. The Tuberculene concern in replying to the request for information regarding the product wrote that Tuberculene would do all that it claimed, and stated that there were a number of tuberculous patients who had been cured by Tuberculene and that some of them were living in Danville. Another letter was written to the company, asking that the medicine be sent provided it would effect a cure of tuberculosis. A bottle of the stuff was thereupon forwarded, parcel post, C. O. D., $3.

Tuberculene was a mixture of creosote, rock candy syrup, glycerin, syrup of wild cherry and coloring matter. The government thereupon called on Dr. Lyman F. Kebler, who is in charge of special collaborative investigations, Bureau of Chemistry, U. S. Department of Agriculture, for an opinion regarding this product and the claims made for it. Dr. Kebler, who was formerly connected with a sanatorium for the treatment of tuberculosis, explained, of course, that no such mixture as this had any curative value in consumption. He pointed out, too, that the use of such a nostrum by the tuberculous would, in all probability, only serve to cause the unfortunate victim to lose precious time in his fight for life. He explained that creosote preparations had long been used in the treatment of certain symptoms in cases of pulmonary tuberculosis, but that it has definitely been established that they do not destroy the tubercle bacilli. He declared that the claim made by Mrs. Murrman that Tuberculene would "destroy all T. B. germs" was false and fraudulent.

The Solicitor's memorandum shows that Mrs. Murrman has no knowledge of medicine, but on the contrary "is shown by her conversation and letters to be very ignorant." Although the active promotion and the sale of Tuberculene was not begun until January, 1925, Mrs. Murrman advertised "18 yrs. Experience." In view of the evidence Judge Donnelly declared the business a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, and recommended the issuance of a fraud order.

Correspondence

DIABETES MELLITUS AND CHRONIC ARTHRITIS

To the Editor:—The article on this subject (The Journal, February 20, p. 535) suggests a note on my personal experience with diabetes and arthritis.

In July, 1923, after twenty years of careful, conventional antidiabetic dieting, I had a sudden acute attack of sciatica in the right hip and leg. My physician immediately began the use of insulin with a weighed diet. There was no other treatment. After ten weeks of helplessness in bed followed by four months spent in getting the muscles back to normal, complete recovery was secured, except for a slight numbness in the right big toe. The net stripped weight, which had dropped during five years to 149 pounds (68 Kg.), began to increase. Within a year it went to its former 187 (85 Kg.), the right figure for my height of 6 feet 1 inch (185 cm.). It stays at 187. Four years before the attack of sciatica, both tonsils were removed because they were in poor condition. There had been no rheumatism or arthritis at any age before the sciatica. Insulin is continued at 50 units twice daily before each of the two meals, 100 units every twenty-four hours. The diet is whatever I like, provided it is kept within the limits of the insulin. The food is not weighed, but the amounts are those indicated by experience, checked by daily tests with Benedict solution. Generous quantities of milk, butter, cheese and celery, and bulky, raw foods are eaten.

On four occasions, following neglect of control by the Benedict tests and consequent overload of blood sugar, a troublesome attack of arthritis has occurred. Each attack was prevented from becoming severe by cutting the diet down to Benedict sugar free condition. But as the arthritis remained rather constant, the experiment was tried of taking 20 units of insulin at 9 p. m. in order to test the effect of reduced blood sugar during the hours of sleep. As a precaution, a quantity of lump sugar was placed beside the bed so that if disagreeable symptoms arose from low blood sugar the condition could be promptly corrected. The insulin was injected two hours before the time of falling asleep, as a further safeguard. The result was the one hoped for. The arthritis ceased and cleared away completely as the result of taking the insulin on two successive evenings. After several months there was another attack at another location, when the blood sugar had been allowed to become excessive through neglect of control by Benedict tests. The right leg and hip were never attacked. The left hand, jaws, and twice the shoulders were the locations. Each was cleared in two days.

I am a retired chemical engineer, and not a physician; by good fortune, thirty-five years ago, I made the professional acquaintance of the late Dr. Henry L. Elsner of Syracuse, who taught me the habit of birthday long life health examinations. They disclosed the diabetic tendency and established its control by careful diet. The use of insulin since 1923 has brought normal health, as indicated by restored weight and energy of body and mind.

H. W. Jordan, Syracuse, N. Y.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SALIVATION AFTER MERCURY

To the Editor:—Please discuss the cause of salivation after the administration of calomel or other forms of mercury. I have not had trouble with salivation myself in treating patients with calomel, but the public frequently charges that a physician gave calomel and did not tell the patient what he was giving and left no caution about giving acids. Then after the patient partook of lemonade or vinegar or acid fruits or pickles, salivation resulted. In a case of typhoid, salivation was said to be the cause of death. Do sour things really have anything to do with it? Isn't it the change of the mild mercurous chloride into the corrosive mercuric or other form resulting from the addition of chlorine taken from another group—HCl or NaCl? Kindly discuss the cause, treatment and prevention of salivation. In the treatment of syphilis the physiologic effect of mercury or beginning salivation is often attained. Withdrawal of the mercury and elimination with the use of atropine and potassium chlorate in the mouth corrects it. Therefore, how could such disastrous results as alleged occur from calomel in a case of typhoid or any other condition? Kindly omit name. M.D., Kansas.

Answer.—The mechanism of the production of mercurial stomatitis is not perfectly understood. There are chiefly two theories that deserve recognition in accounting for it. According to one, it is due to the irritation produced by the mercury eliminated in the saliva. Variability in degree of elimination by this channel, which has been demonstrated to occur, would account for variation in susceptibility. There are, however, a number of peculiarities of this condition that cannot well be accounted for in this manner. According to the other theory, it is the hydrogen sulphide produced by bacterial decomposition of putrefying organic matter, that reacts with the mercury ion circulating in the capillaries, causing its precipitation and accumulation at such areas in harmful quantities. This theory would explain the reason for the special tendency of inflammation and even necrosis to localize itself at the two ends of the alimentary tract, the mouth and the colon; also why a clean mouth is much less liable to mercurial stomatitis than one that harbors putrefying material. As such matter accumulates between the teeth and in the cavities of decaying teeth, it explains the marked immunity of the edentulous, including infants, to this disturbance. That the theory incriminating hydrogen sulphide with this occurrence does not offer an altogether satisfactory explanation is shown by the fact that stomatitis may not occur even though the mouth is foul and that it may occur, though rarely, in a patient with a clean mouth. That the presence of certain bacteria plays an important rôle in this condition cannot be doubted.

A foul condition of the mouth, together possibly with poor elimination by other channels and a general lowering of cell nutrition, might account for more disastrous results from calomel in a typhoid fever patient than would occur ordinarily.

Why acidulous fluids, such as lemonade or vinegar, should be charged with a tendency to produce ptyalism is not easy to comprehend, and that this is a fact may well be doubted. The true acid (hydrogen ion concentration) of these is very low; and, as is well known, the acidity even of the gastric juice, which is much greater, does not activate calomel, as this does not become active until it reaches the intestine.

The prevention of salivation, as will be readily understood from what has just been said, depends not only on limiting the dose of the mercurial to the capacity of the organism, but also on keeping the mouth in a perfectly hygienic condition, including whatever dental care may be required. The use of a mouth wash and soft tooth brush after each meal should be insisted on. In addition, smoking is inadvisable.

In the treatment of the condition, besides stopping immediately the introduction of the mercurial, steps should be taken to favor its elimination by other channels. Sodium thiosulphate might be given for its alleged antidotal action.

As local treatment, the use of potassium chlorate in saturated solution as a mouth wash is too well known to require detailed discussion. If, however, there is necrotic material in the mouth, hydrogen peroxide, 1 part, diluted with warm water, 2 or 3 parts, is of advantage. Marked fetor would require the frequent use of a rose or port wine color solution of potassium permanganate. When the necrotic material has been shed and ulcers are left, full healing may be expedited by the occasional application of silver nitrate. The pain on eating may be considerably relieved by preliminary use of a local anesthetic, such as ethyl aminobenzoate (benzocaine).

THE ZOALITE LAMP

To the Editor:—I am writing to seek information relative to a therapeutic lamp called the Zoalite, which I think is on the general commercial market. What I wish to know is whether you can tell us the percentage of infra-red given off from this lamp and what other rays are given off from it?

A. F. TYLER, M.D., Omaha.

ANSWER.—The Zoalite is a device for producing radiant heat for therapeutic purposes. The heat is produced by a "resistor," which is heated by an electric current. This "resistor" is similar in composition to the "resistor" used in some heaters sold for domestic purposes.

The radiant energy emitted by this heating unit is not unlike the radiant energy produced by any incandescent body, such for example as a bar of hot iron or the filament of a tungsten lamp.

The therapeutic value of the Zoalite is precisely that of other sources of radiant heat.

INFANT FEEDING

To the Editor:—This letter is both an inquiry and, perchance, a warning. Recently our local clinical club in a city of 20,000 held a clinic at our local hospital. One of the leading pediatricians of our country spoke. This particular clinic was a great success. But I am wondering about some of the statements made: "Condensed milk or dried milk is the best infant food aside from mother's milk." "This case [swollen abdomen, marasmus, malnutrition] is intestinal indigestion, and tuberculous peritonitis can be ruled out because of the age" (2 years). Are these statements universally accepted, along with the one that "starch is well handled by infants after the fourth month"? We, in the country, work under a great handicap. We have no great hospitals at our front door; but we do visit the larger clinics with more frequency, I believe, than is the custom among the rank and file in the large city. We do not want skim milk when we invite a leader to come to us. We are able to digest red meat, and that is what we desire. This letter sounds harsh, as I reread it. That is not my intent. I do wish, however, that the men who come out to us could remember that we, like themselves, are physicians. Learning is available to all men. Please use initials only.

R. E. S., Vermont.

ANSWER.—Cow's milk dilutions with carbohydrates added are the food of choice for infant feeding when breast milk is not available. There are few infants who will not thrive on such fresh, clean cow's milk mixtures throughout most of the year even though we have a good quality of milk. The exceptional baby may not be able to take fresh cow's milk, but these are few. If good milk is not available, the dried milks should be given consideration. The same may be said when the child is traveling or is taken for short visits away from its regular diet. Dextri-Maltose, Mellin's Food, and Horlick's Malt Food have practically the same ingredients except for a difference in percentages.

Tuberculous peritonitis is more common after the second year than before; acute miliary tuberculosis involving the peritoneum is more frequent under 2 years of age.

Well cooked starch may be added to the milk mixtures after the sixth week of life.

All of the points covered in this answer, with the exception of that on tuberculous peritonitis, are contained in "Infant Feeding," published by the American Medical Association.

ACCESSORY PANCREAS

To the Editor:—I wish to know whether it will be possible to find out if the case of de Jong of accessory pancreas at the pylorus occurred in an infant or adult, and if the stenosis was congenital. The case is referred to in an abstract in THE JOURNAL, July 10, 1920, page 141.

KELLY HALE, M.D., Wilmington, Ohio.

ANSWER.—De Jong's case was published in German in *Virchows Archiv* **223**:220, 1917, and in the *Nederlandsch Tijdschrift voor Geneeskunde* **2**:2372, 1915. The patient was a woman, aged 38, who for eight years had been having symptoms from the stomach, especially spasms of severe pain, relieved by eating; there was no vomiting. Laparotomy on the diagnosis of duodenal ulcer revealed a small tumor, the size of a pea, on the lesser curvature, close to the pylorus, which it partially obstructed. The tumor was excised, completely curing the patient. The tumor proved to be entirely normal pancreas tissue, with normal Langerhans' islands; merely the abnormal location had entailed the severe symptoms. The article is headed "Benign Tumors at the Pylorus," and describes three other cases of hypertrophy with more or less stenosis of the pylorus, caused by simple proliferation of apparently normal glands. There were no signs of inflammation in any of the cases and nothing to suggest malignant disease. The article by Nieuwenhuijse, in which de Jong was mentioned, is an exhaustive study of aberrant pancreas tissue and why it is so often associated with diverticulum formation in the lower portion of the small intestine (seven authors are cited who have published such) but so rarely in the duodenum and never in the stomach. Scagliosi found pancreas tissue in the wall of a duodenal ulcer in two cases. These tumors are always small and benign, according to six authors cited. Saltykow asserts that all carcinoid bowel tumors are due to aberrant pancreas tissue, but Nieuwenhuijse's study of five cases of accessory pancreas (one found at necropsy of a woman, aged 75) failed to reveal any suggestion of malignant disease, and Scagliosi is the only writer who has mentioned such.

NONSPECIFIC PROTEIN IN PSORIASIS

To the Editor:—What are the indications for milk (protein) hypodermic injections? What is the technic for giving milk injections (hypodermic)? Are they indicated or have they been used in the treatment of psoriasis? If so, with what success?

F. E. PERKINS, M.D., Watertown, N. Y.

ANSWER.—Injections of milk protein should be intramuscular, not hypodermic. They have been used in conditions in which it is desired to stimulate resistance to disease by causing a mild reaction to nonspecific proteins. Injections of milk protein have been used in a host of conditions, but this use is not supported by controlled clinical evidence from reputable observers. The technic is that of intramuscular injection. The patient should be face downward on the table with the arms hanging over the sides of the table to aid relaxation. The toes should be directed inward, pigeon toed, to relax the gluteal muscles. One hand of the operator draws down the muscles toward the patient's feet and the other plunges the needle into the buttock at an angle of 20 degrees from vertical (toward the patient's feet) and slightly inward (toward the median line). The point of entrance should be near the lower, inner angle of the outer upper quadrant of the buttock. The needle should be buried to the depth of from 1 to 2 inches in adults, depending on the size of the buttock. The downward pressure on the buttock is then relaxed. If no blood flows from the needle, the syringe, previously filled, is attached, and back traction made for several seconds, at least ten. If no blood appears, the injection is made slowly. One should press with a sterile sponge at the point of entrance of the needle, and withdraw the needle, then massage gently for several minutes. The patient should remain in position for a few minutes after the injection is finished.

USE OF ANTIGONOCOCCAL VACCINE

To the Editor:—Is the injection of bacterins (Neisser) now used extensively? Please use initials.

D. E. S., Alaska.

ANSWER.—It is probable that gonococcus vaccine in some form or other is still used by physicians in the treatment of gonorrhea and its complications. There is no question, however, but that this practice is far less extensive than formerly. The use of gonococcus vaccine for curative treatment appears to be sharing in the decline in popular favor of bacterial vaccines in general. Gonococcus Serum and Gonococcus Vaccine were omitted from New and Nonofficial Remedies because the Council on Pharmacy and Chemistry concluded that there was no evidence to show that these preparations had therapeutic value (Colon Bacillus Vaccine, Gonococcus Serum and Gonococcus Vaccine Omitted from N. N. R., The Journal, Jan. 17, 1925, p. 220).

PRESCRIPTION FOR ALOPECIA

To the Editor.—In The Journal, January 23, in the article on "Technic of Medication," was the formula for a lotion prescribed for alopecia. I have asked at a local druggist's to have this made up, and the question arose as to whether the amount of tincture of cantharides was correctly written or not Equal parts of tincture of cantharides, tincture of capsicum and compound spirit of myrcia was the prescription given. Will you kindly advise me? Pauline L. Packard, Ashland, N. H.

Answer.—The quantities in the "hair tonic," namely, equal parts of tincture of cantharides, tincture of capsicum, and compound spirit of myrcia are correct. A few drops of it rubbed into the scalp every day does not produce rubefaction.

GOAT SERUM

To the Editor —I am much interested in your statement, "In some experiments it has been found that goat serum in certain cases may be quite toxic." Can you give me reference to the experiments together with any further information on the toxic quality of antitoxin derived from goat serum when concentrated and added to diphtheria toxin for use in immunizing against diphtheria?

Millard Knowlton, M D , Hartford, Conn.

Answer.—So far as known, there are no published observations on the toxicity of concentrated antidiphtheria goat serum used in connection with diphtheria toxin. There are observations, however, showing that goat serum may be toxic. Thus, Tunnicliff (Prevention of Measles by Immune Goat Serum, (*J. Infect. Dis.* **38**:48 [Jan] 1926) found that the serum of one goat was toxic for nearly all the persons into whom it was injected; after standing eight months, however, the toxic action seemed to have been lost. The point is that the general assumption of the harmlessness of goat serum probably is not in accord with the real facts in the case. In the meantime this discussion is largely academic in interest because at present there is no goat antitoxin generally available.

TECHNIC OF THERAPY

To the Editor —Kindly advise as to the usual procedure in giving the following by intramuscular injection; i e , as to frequency: 1. Iron and ammonium citrate, $\frac{3}{4}$ grain; sodium arsenate, $\frac{1}{30}$ grain, in secondary anemia 2 One cc. ampules of extract of corpus luteum for relief of symptoms at menopause. How many ampules are considered a course? What is the number of courses usually necessary and the length of rest between them, if any? H. B. Chapin, M D., Torrington, Conn.

Answer.—1. Iron and ammonium citrate with arsenic is injected intragluteally daily or every other day, usually in gradually ascending and then descending dosage from 0 01 up to 0 1 Gm. of the iron salt. The course should be extended for at least six weeks. A course of one or two weeks' duration usually produces little or no result. If, on the other hand, a six weeks' course has not secured the desired result, further treatment is not likely to be successful. During the first week the dose is gradually increased. It is then maintained at the height secured for three weeks, and then gradually reduced during the succeeding two weeks. Regularity of treatment is essential for good results. While the intramuscular injection of iron has become somewhat popular, there is, as a matter of fact, no good evidence for the use of this procedure rather than the customary oral administration.

2. Reliable experience and knowledge regarding the administration of corpus luteum for the relief of the symptoms of the menopause is lacking. There are, indeed, many good authorities who question the value of this treatment, excepting for the psychic effect. It is pointed out in New and Nonofficial Remedies that there is considerable evidence that the aqueous extracts prepared for hypodermic use are inert.

VACCINATION AND TOXIN-ANTITOXIN

To the Editor —In a child who is to be vaccinated against smallpox and who is also to be given diphtheria toxin antitoxin, does it make any difference as to which of these is given first? Please do not publish my name. M D., Missouri.

Answer —So far as known, it will not make any difference whether vaccination is carried out before or after immunization with diphtheria toxin-antitoxin.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

American Board of Otolaryngology, Texas: Dallas, April 19.

California: San Francisco, April 27. Sec., Dr. H. H. Loeb, 1402 South Grand Boulevard, St. Louis, Mo

Arkansas Little Rock, May 11-12. Sec , Dr. J. W. Walker, Fayetteville Homeo Board, Little Rock, May 11. Sec , Dr. A. A. Pringle, Eureka Springs Eclectic Board, Little Rock, May 11. Sec , Dr. Claude E Laws, Fort Smith.

Colorado: Denver, April 6. Sec., Dr. David A. Strickler, 612 Empire Bldg , Denver.

District of Columbia: April 13. Sec., Dr. Edgar P. Copeland, 1801 Eye St., Washington, D C.

Hawaii: Honolulu, April 12-15. Sec., A. L. Davis, 1254 Emma Street, Honolulu

Idaho: Boise, April 6. Commissioner of Law Enforcement, F. A. Jeter, Boise.

Illinois: Chicago, April 6 8 Supt. Regis., Mr. V. C. Michels, Springfield.

Minnesota: Minneapolis, April 6 8. Apply to Mrs. Martha Lundgren, 734 Lowry Bldg , St Paul

Montana: Helena, April 6 8 Sec., Dr. S. A. Cooney, Helena.

National Board of Medical Examiners: Part I, June 21-23; Part II, June 22 23. All applications should be made on or before May 15. Sec , Dr J. S. Rodman, 1600 Walnut Street, Philadelphia.

Nevada: Carson City, May 3 Sec , Dr. Simon L Lee, Carson City.

New Mexico: Santa Fe, April 12 13. Sec , Dr. W. T. Joyner, Roswell.

Rhode Island: Providence, April 1-2. Sec., Dr. Byrum U. Richards, Providence

Utah: Salt Lake City, April 6. Director, Mr. J. T. Hammond, Salt Lake City.

Arizona January Examination

Dr. W. O. Sweek, secretary of the Arizona Board of Medical Examiners, reports the written examination held at Phoenix, Jan. 5-6, 1926. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Of the 7 candidates examined, 6 passed and 1 failed. One candidate was licensed by reciprocity. The following colleges were *represented:*

College	PASSED	Year Grad.	Per Cent
University of California Medical School		(1925)	85.8
Howard University School of Medicine		(1922)	75
University of Kansas School of Medicine		(1925)	90 4
Tulane University of Louisiana School of Medicine		(1922)	86 7
University of Michigan Medical School		(1923)	85.6
University of Nebraska College of Medicine		(1925)	85 7

College	FAILED	Year Grad.	Per Cent
St Louis College of Physicians and Surgeons		(1910)	*

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Texas Department of Medicine		(1922)	Texas

* No grade given.

Rhode Island January Examination

Dr. B. U. Richards, secretary of the Rhode Island Board of Health, reports the written and practical examination held at Providence, Jan. 7-8, 1926. The examination covered 7 subjects and included 70 questions. An average of 80 per cent was required to pass. Seven candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Harvard University		(1922) 89 5, (1923)	80
Tufts College Medical School		(1924)	84 5, 87.3, 93 7
Jefferson Medical College of Philadelphia		(1924)	90.3
University of Naples, Italy		(1923)*	83 5

* Verification of graduation not completed by the American Medical Association.

Oregon January Examination

Dr. Urling C. Coe, secretary of the Oregon Board of Medical Examiners, reports the written examination held at Portland, Jan. 5-7, 1926. The examination covered 11 subjects and included 110 questions. An average of 75 per cent in each subject was required to pass. Thirteen candidates were examined, all of whom passed. Four candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Northwestern University Medical School		(1924) 77 (1925)*	80.6
Rush Medical College		(1921) 77 7 (1925)	77.1
University of Illinois College of Medicine		(1925)	82
University of Louisville School of Medicine		(1925)	78.8
Harvard University		(1921)	94.3

[illegible] College	(1921)	80.3
[illegible] cal School	(1924) 81.4, (1925)	83.1, 84.9
[illegible] College of Med. and Surg.	(1923)	77.3
[illegible] ue, Czechoslovakia	(1921)†	83

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Harvard [illegible]	(1923)	New York
Universit [illegible] ool	(1923)	Washington
Jefferson [illegible]	(1906)	Penna.
Vanderbil	(1913)	Texas

* This [illegible] and will receive his M.D. degree on completion of a year's internship in a hospital.

† Verification of graduation not completed by the American Medical Association.

Book Notices

Diseases of Infants and Children. By Henry Dwight Chapin, A.M., M.D., Consulting Physician to the New York Post-Graduate Hospital, and Lawrence Thomas Royster, M.D., Professor of Pediatrics and Head of the Pediatric Department of the University of Virginia. Fifth edition. Cloth. Price, $6. Pp. 633, with 162 illustrations. New York: William Wood & Co., 1925.

This edition is presented to its readers with the collaboration of a new editor. L. T. Royster has succeeded Godfrey Pisek, recently deceased. Portions of the book have been rewritten in the attempt to bring them to date. The introductory chapters on the care and hygiene of children and diseases of the new-born, and the section on growth and development, as well as the succeeding chapters on the examination of the sick child, general therapeutics and suggestions for diagnosis, are well written and contain valuable information. The chapter on the infant from the nutritional standpoint is a suggestive and original treatise, representing the authors' view on the biologic standards of infant feeding. In some of the clinical descriptions the text has suffered somewhat in the attempt to be concise, without being fully descriptive. Necessarily, in a book of this nature and size, details must be omitted. This is notably true in the description of the diseases of the digestive system. In a book on pediatrics, this important subject deserves more space and consideration than is given here. Taken as a whole, however, the book will give the student much of value, and the practitioner important information on diagnosis and treatment.

Grundriss der wissenschaftlichen Anatomie. Zum Gebrauch neben jedem Lehrbuch der Anatomie für studierende und Aerzte. Von Dr. Wilhelm Lubosch, Professor der Anatomie in Würzburg. Paper. Price, 18 marks. Pp. 292, with 66 illustrations. Leipsic: Georg Thieme, 1925.

This represents an attempt of the professor of anatomy at Wurzburg to pass on to others what he has found most satisfactory in his study of anatomy as a science. The desire to understand leads to keen interest in the general principles of all sciences. Few sciences are as well adapted as anatomy to awaken and satisfy that interest, but Lubosch laments that its study is too often made drudgery, and that the student thus loses a great intellectual joy and satisfaction. This satisfaction Lubosch has found in seeing in the living human body the expression of these general principles and a working model of vital processes. He has devoted his lectures on anatomy to an endeavor to set forth these visions, and the book has resulted from the course of lectures. With the love of system that characterizes German professors in their philosophic reviews, he surveys the whole field and sets everything in order. First he considers the relations of this science to others, such as physiology, medicine and philosophy, and then proceeds to a systematization of the individual science, its scope and content. He divides the book into a general section and a special section. The general section includes his conception of living matter, its essence and character. Recognizing the philogenetic kinship of man with other animal forms, he surveys the principles of structure of living animals (especially vertebrates) and the changes that have led to the diversification of their structure. The principles of transformation of which these bodies are expressions are formulated and reviewed. The special section deals with the human body only. With considerations of the normal and the range of variation, with racial anatomy, symmetry and segmentation, it treats of development and the search for its productive causes in experimental embryology. A consideration of the morphology of tissues is followed by a similar study of cells, leading ultimately to an effort to relate cell structure to the colloidal structure of protoplasm. The author does not pretend to cover the great subjects of which he treats, but tries only to sketch in the line along which thought will naturally proceed. He includes references to the literature up to 1924, and has made or borrowed sixty-six figures, mostly schematic, to assist in the presentation of the ideas considered. Many of these were prepared for his lectures. Thoughtful students will welcome this book and others of its kind. It will help toward an understanding of anatomy and morphology, and toward an appreciation of the beauty of general, even if theoretical, explanations of morphologic facts.

Scoliosis. Rotary Lateral Curvature of the Spine. By Samuel Kleinberg, M.D., F.A.C.S., Assistant Surgeon, New York Hospital for Ruptured and Crippled. Cloth. Price, $6. Pp. 311; with 140 illustrations. New York: Paul B. Hoeber, Inc., 1926.

In presenting the subject of scoliosis, the author reviews concisely the knowledge and experiences acquired during the last twenty years, avoiding the theoretical and discussing the practical and useful. The book is written primarily for the orthopedic surgeon, but is of great value to the general practitioner, because it is the latter who sees this type of patient long before the orthopedic surgeon. Much valuable time will be gained if the general practitioner has a working knowledge of the principles of diagnosis and treatment. There are excellent chapters on the anatomic and physiologic aspects of the condition. The author takes exception to the statement of Hibbs, that scoliosis is in the majority of cases a result of infantile paralysis. He is convinced that scoliosis is due to this disease in only a small percentage of cases. The author states how difficult the problem of scoliosis is, and then proceeds to prove how simple it is if his method is followed. He lays much emphasis on potential improvement in a large percentage of cases by corrective plaster-of-paris jackets and gymnastic exercises when correctly and judiciously applied in appropriate cases. In brief, his operative treatment is divided into three parts: the preoperative stage of from four to eight weeks of absolute recumbency on a Whitman frame, the body in extension-traction on the convex frame; the operative stage, consisting of an operation combining features of the Hibbs, Albee and Forbes methods; the postoperative stage of recumbency without apparatus for from seven to ten days, and then a gradual return to the preoperative treatment for eight weeks. After this a plaster jacket is applied and the patient is allowed to stand and go home, returning every two weeks for observation. The jacket remains on at least six months. A roentgenogram is made every month, and after from six to nine months a corset is supplied. The author believes that operation should be restricted to those cases in which there is a progressive increase of deformity irrespective of the etiologic basis of the scoliosis or of the age of the patient. If operation is performed, he advises against corrective exercises. In thirty-one of thirty-three cases, fixation, the object of operation, was obtained; there were two relapses. The book can be recommended highly to the medical student, to the general practitioner and to the orthopedic surgeon.

Clinical Disorders of the Heart Beat. A Handbook for Practitioners and Students. By Sir Thomas Lewis, M.D., F.R.S., D.Sc., Consulting Physician to the Ministry of Pensions. Sixth edition. Cloth. Pp. 131, with 55 illustrations. London: Shaw & Sons, Ltd., 1925.

In the minds of most physicians, the name of Sir Thomas Lewis has been intimately associated with electrocardiography and research in connection with heart disease. It is a surprise to some, therefore, to learn that he has written an eminently practical book concerning the commoner irregularities of the heart, and, further, that in this book he purposely avoids reference to the electrocardiograph and only rarely calls in the aid of any other instrument of precision. His aim is, in other words, to discuss these conditions from the noninstrumental standpoint, and to show that they may be recognized and understood by careful observation and logical reasoning if only the fundamental principles of cardiac physiology and pathology have been previously mastered. That he has been successful is proved by the fact that in fifteen years six editions of this book have been called for. In this edition the work has been brought down to date. All that has been said in reviews of previous editions in praise of the lucidity of style, conciseness and forcefulness may be here repeated. The work is written in the first person singular. We have counted the names of but few others in the whole work, incidentally mentioned: Purkinje, Cheyne-Stokes, Adams-Stokes. This means that the work is an individual one, expressing the views of Lewis and Lewis alone. The ego in the book is not, however, offensive, and for the general practitioner it is more useful than if written in a less dogmatic manner. It remains today one of the very best books on this subject, perhaps the very best.

Medical Ophthalmology. By R. Foster Moore, O.B.E., M.A., B.Ch., Assistant Ophthalmic Surgeon, St. Bartholomew's Hospital. Second edition. Cloth. Price, $6. Pp. 344, with 100 illustrations. Philadelphia: P. Blakiston's Son & Co., 1925.

To the first edition have been added sections on defects of the visual fields due to lesions of the temporal lobe; the normal pupillary reactions; intracranial aneurysms and subarachnoid hemorrhage; encephalitis; primary tumors of the optic chiasm; icterohemorrhagic jaundice, and juvenile and adolescent forms of cerebromacular degeneration. The book might well have been called "Ocular Manifestations in Systemic Disease." It deals briefly with changes in the eye which accompany the various diseases. There is an attempt to arrange the material as carefully as possible to conform to anatomic classification, and when this fails, the author has classified the diseases according to nutritional disorders, specific infections, congenital and hereditary conditions, effects of drugs, and parasites. The material presented is largely the author's experience in the wards of St. Bartholomew's and Moorfields. It is well presented, and the book should be of especial interest to medical students for reference, and to the internist.

Diagnostische und therapeutische Irrtümer und deren Verhütung. Innere Medizin. Herausgegeben von Prof. Dr. J. Schwalbe, Geh. San.-Rat in Berlin. Sechzehntes Heft. Die Krankheiten der Leber mit Einschuss der hepatolienalen Affektionen. Von Professor Dr. H. Eppinger, Assistent an der I. Medizinischen Klinik, und Dozent Dr. P. Walzel, Assistant an der I. Chirurgischen Klinik Eiselsberg in Wien. Paper. Price, 7.20 marks. Pp. 134, with 10 illustrations. Leipsic: Georg Thieme, 1926.

This is another of the useful, brief but practical discussions on the avoidance of common errors in the diagnosis and treatment of disease. The present number deals with diseases of the liver and spleen and, like its predecessor, may be recommended to the physican familiar with the German language.

Insects and Disease of Man. By Carroll Fox, M.D., Surgeon, U. S. Public Health Service. Cloth. Price, $4 net. Pp. 349, with 92 illustrations. Philadelphia: P. Blakiston's Son & Co., 1925.

This is divided into two parts. The first part deals with medical entomology and contains a classification and descriptions of the life histories of the insects concerned with disease transmission, together with chapters on the arachnida and the rodents. The second part describes the insect borne diseases under headings such as epidemiology, recognition of the disease and methods of control. While the chapters on medical entomology are quite complete, those on insect borne diseases could well have been expanded to the benefit of the reader.

Handbuch der sozialen Hygiene und Gesundheitsfursorge. Herausgegeben von A. Gottstein, A. Schlossmann, L. Teleky. Erster Band. Grundlagen und Methoden. Bearbeitet von E. Dietrich, A. Grotjahn, V. Haecker, F. Hueppe, P. Krautwig, R. Martin, F. Prinzing, M. Vogel, W. Weinberg. Paper. Price, 30 goldmarks. Pp. 511, with 37 illustrations. Berlin: Julius Springer, 1925.

This is the first part of a comprehensively planned three-volume treatise on social hygiene along familiar German lines. It deals with the history of social hygiene by the veteran Hueppe, with the methods and technic of statistical inquiry including some discussion of data, and with problems of race and heredity, health education, official organization and the like. In the section on public health organization by Dietrich (pp. 432-438) Poland is given more space than England, and the United States is not mentioned.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

An Elementary Course in Tropical Hygiene. Part I. By Mary G. Blacklock, M.B., B.Sc., D.T.M., Lady Medical Officer, Sierra Leone, West African Medical Service. Preface by Andrew Balfour, C.B., C.M.G., M.D., Director, London School of Hygiene and Tropical Medicine. Paper. Price, 1 shilling net. Pp. 44, with 9 illustrations. London: John Bale, Sons & Danielsson, Ltd., 1926.

A pamphlet telling children in story form the important points of hygiene in warm climates.

Intestinal Tuberculosis. Its Importance, Diagnosis and Treatment: A Study of the Secondary Ulcerative Type. By Lawrason Brown, M.D., Chairman of the Medical Board of the Trudeau Sanatorium, Saranac Lake, New York, and Homer L. Sampson, Roentgenographer of the Trudeau Sanatorium, Saranac Lake, New York. Cloth. Price, $4. Pp. 304, with 112 illustrations. Philadelphia: Lea & Febiger, 1926.

Conservative monograph, with excellent bibliography.

Principles of Pharmacy. By Henry V. Arny, Ph.M., Ph.D., F.C.S., Professor of Chemistry in the College of Pharmacy of Columbia University. Third edition. Cloth. Price, $8 net. Pp. 1078, with 289 illustrations. Philadelphia: W. B. Saunders Company, 1926.

New edition, based on the latest revision of the Pharmacopeia and including all recent discoveries.

Operative Cystoscopy. By E. Canny Ryall, F.R.C.S., Founder of and Senior Surgeon to All Saints' Hospital for Genito-Urinary Diseases, London. Cloth. Price, $25. Pp. 47, with 670 illustrations. St. Louis: C. V. Mosby Company, 1925.

American edition of handsomely illustrated British guide to cystoscopy.

A Handbook for Senior Nurses and Midwives. By J. K. Watson, M.D., Capt., R. A. M. C. Cloth. Price, $4. Pp. 554, with 178 illustrations. New York: Oxford University Press, 1926.

Much too much information for nurses and midwives, and some of it none too good.

Practical Helps in the Study and Treatment of Head Injuries. By Adolph M. Hanson, M.D. Cloth. Brice, $3. Pp. 109, with 91 illustrations. Boston: Richard G. Badger, 1925.

Somewhat commonplace practical handbook.

Simpatectomia Peri-Arterial. Por el Doctor Julio Cesar Rivas Morales y por el Doctor Domingo Luciani. Paper. Pp. 84, with 8 illustrations. Caracas, Venezuela, 1925.

Technical debate on a debatable surgical procedure.

Pygmalion. Or the Doctor of the Future. By R. M. Wilson, M.B., Ch.B. Cloth. Price, $1. Pp. 67. New York: E. P. Dutton & Co., 1926.

Reviewed editorially, February 6, p. 419.

Terapéutica General de la Tuberculosis. Por el Dr. Rodolfo Eiselt, Profesor de la Facultad de Medicina de Carlos IV de Praga. Traducción del Profesor R. J. Slaby, revisada por los doctores Angel Pulido, secretario de la Real Academia de Medicina, y José Chabás, director de la Revista de Higiene y Tuberculosis de Valencia. Paper. Pp. 476. Barcelona, 1926.

Proyectos de Organizacion de la Lucha Antipalúdica. Con aplicación a las condiciones hidrográficas y agricolas de las distintas regiones de España. Por el Dr. C. Maturana Vargas. Trabajo premiado por la Real Academa Nacional de Medicina. Paper. Pp. 105. Madrid, 1925.

Proceedings of the Pathological Society of Philadelphia. Containing the transactions of the Society from January, 1924, to January, 1925. Edited by Morton McCutcheon, M.D., Recorder of the Society. Pp. 102. Philadelphia, 1925.

Universidad de Barcelona Facultad de Medicina: Insituto de Fisiologia (Sostenido por la Diputación Provincial). Trabajos publicados durnate el quinquenio 1920-1925. Barcelona, 1926.

Annual Report of the Commissioner of Correction. For the year ending November 30, 1924. The Commonwealth of Massachusetts. Boston, 1925.

American Drug Manufacturers' Association. Fourteenth Annual Meeting, April, 1925. Pp. 398. New York.

El Problema de la Vejez. Por el Doctor J. J. Vigas. Paper. Pp. 22. Caracas, Venezuela, 1925.

Medicolegal

Liability for Medical and Hospital Services

(Irwin v. McDougal et al. (Mo.), 274 S. W. R. 923)

The Springfield (Mo.) Court of Appeals says that in this action, brought by a married woman to recover damages for personal injuries sustained in an automobile accident, the instructions given to the jury authorized it in assessing damages to include bills for medical attention and hospital services. That was error. The married woman's act of Missouri, which authorizes a married woman to contract as a *femme sole* (unmarried or single woman) and makes her separate earnings her own property, does not change the common-law rule by which the husband is primarily liable for the support of his wife, which includes medical attention and hospital service. Had the plaintiff paid these bills, she could recover them in this action. There was no evidence in this case, however, to show that the plaintiff paid, or incurred personal liability for, the medical and hospital bills made necessary by her injury. In the absence of such showing, the liability for those items rested primarily on her husband, and the right of action to recover therefor was in him and not in the plaintiff.

"Sound Health" Properly Defined

(National Life & Acc. Ins. Co. v. Smith (Ga.), 129 S. E. R. 113)

The Court of Appeals of Georgia, division 2, in affirming a judgment in favor of the beneficiary under a life insurance policy, says that it appeared from the evidence that the jury was authorized to find that the insured was in sound health at the time of the issuance of the policy. The term "sound health," as used in a life insurance policy which provides that there shall be no liability under the policy if the insured is not in sound health at the date of the issuance of the policy, is properly defined in the charge of the court as follows:

> If the insured enjoyed such health and strength as to justify the reasonable belief that she is free from derangement of organic functions, or free from symptoms calculated to cause reasonable apprehension of such derangement, and to ordinary observation and to outward appearance her health is reasonably such that she may with ordinary safety be insured and on ordinary terms, the requirement of good health is satisfied. . . . The term "sound health," or "good health," used in a policy, means that the applicant has no grave impairment or serious disease, and is free from any ailment that seriously affects the general soundness and healthfulness of the system.

Under this definition, "sound health" consists, not alone in the outward appearance of sound health, but also in a reasonable freedom from physical derangement and impairment as defined above.

Apprehensions of Injured Woman Not Compensable

(Nevala v. City of Ironwood (Mich.), 205 N. W. R. 93)

The Supreme Court of Michigan says that the plaintiff brought this action to recover damages on account of having broken her left leg, owing to the alleged improper condition in which the city had negligently left a sidewalk. At the time of the accident she was pregnant. She testified that she suffered fear of a miscarriage, worried over the possibility that the child might be deformed by the injury she received, and the labor of childbirth was prolonged and rendered more difficult by her inability to move the broken leg. There was no miscarriage and no deformity occasioned the child by the injuries to the plaintiff. At the trial the defendant asked for the exclusion of this element of pain and suffering, but the testimony was admitted; and, because it was, the judgment which was rendered for the plaintiff is reversed and a new trial granted. If the pains of childbirth were enhanced in consequence of the injuries, that would constitute a proper subject of compensation. But the plaintiff's apprehension of a miscarriage or of the possibility of the deformity of the child she was carrying at the time of the accident was not a subject for the consideration of the jury in awarding compensation.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Dallas, April 19-23. Dr. Olin West, 535 N. Dearborn Street, Chicago, Secretary.

Alabama, Medical Association of the State of, Mobile, April 27-30. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Assistant Secretary.
American Association for the Study of Allergy, Dallas, April 20. Dr. A. H. Rowe, 242 Moss Avenue, Oakland, Calif., Secretary.
American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 10-12. Dr. H. G. Bugbee, 40 E. 41st Street, New York, Secretary.
American Association of Industrial Physicians and Surgeons, Philadelphia, May 24-26. Dr. F. L. Rector, 22 East Ontario Street, Chicago, Secretary.
American Bronchoscopic Society, Montreal, Canada, May 29. Dr. Henry B. Orton, 671 Broad Street, Newark, N. J., Secretary.
American Child Health Association, Atlantic City, May 17-22. Dr. S. J. Crumbine, 370 7th Ave., New York City, Secretary.
American Dermatological Association, Niagara Falls, Canada, May 27-29. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary.
American Gastro-Enterological Association, Atlantic City, May 3-4. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.
American Gynecological Society, Stockbridge, Mass., May 20-22. Dr. A. H. Curtis, 104 S. Michigan Ave., Chicago, Secretary.
American Orthopedic Association, Atlanta, April 26-28. Dr. De Forest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.
American Proctologic Society, Indianapolis, April 16-17. Dr. William A. Rolfe, 331 Beacon Street, Boston, Secretary.
American Roentgen Ray Society, Detroit, May 18-22. Dr. C. L. Martin, Baylor Hospital, Dallas, Texas, Secretary.
American Society of Clinical Investigation, Atlantic City, May 3. Dr. J. H. Austin, University of Pennsylvania, Philadelphia, Secretary.
American Society of Clinical Pathologists, Dallas, April 15-17. Dr. Ward T. Burdick, Metropolitan Building, Denver, Colo., Secretary.
American Surgical Association, Detroit, May 24-26. Dr. R. B. Greenough, 8 Marlborough Street, Boston, Secretary.
American Urological Association, Boston, May 17-19. Dr. H. G. Hamer, 723 Hume-Mansur Building, Indianapolis, Ind., Secretary.
Arizona [illegible] ...e, April 25-27. Dr. D. F. Harbridge, 407 G [illegible] Secretary.
Arkansa [illegible] ...rings, May 18-20. Dr. W. R. Bathurst, 810 Boyle Building, Little Rock, Secretary.
Association for the Study of Internal Secretions, Dallas, April 20. Dr. F. M. Pottenger, Title Insurance Building, Los Angeles, Secretary.
Association of American Physicians, Atlantic City, May 4-5. Dr. F. W. Peabody, Boston City Hospital, Boston, Secretary.
California Medical Association, Oakland, April 26-May 1. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.
Conference of State and Provincial Health Authorities, Atlantic City, N. J., May 21-22. Dr. Richard M. Olin, State Commissioner of Health, Lansing, Mich., Secretary.
Connecticut State Medical Society, New Haven, May 19-20. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.
Florida Medical Association, Gainesville, May 3-5. Dr. Shaler Richardson, 111 W. Adams Street, Jacksonville, Secretary.
Georgia, Medical Association of, Albany, May 12-15. Dr. A. H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.
Hawaii Territorial Medical Association, Honolulu, April 25-28. Dr. F. J. Pinkerton, 46 Young Building, Honolulu, Secretary.
Illinois State Medical Society, Champaign, May 18-20. Dr. H. M. Camp, Lahl Building, Monmouth, Secretary.
Iowa State Medical Society, Des Moines, May 12-14. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.
Kansas Medical Society, Kansas City, May 4-6. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.
Louisiana State Medical Society, Monroe, April 15-17. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 27-29. Dr. J. A. Chatard, 1211 Cathedral Street, Baltimore, Secretary.
Medical Women's National Association, Dallas, April 18-19. Dr. Lena K. Sadler, 533 Diversey Parkway, Chicago, Secretary.
Minnesota State Medical Association, St. Paul, May 17-19. Dr. E. A. Meyerding, 11 W. Summit Avenue, St. Paul, Secretary.
Mississippi State Medical Association, Jackson, May 11-13. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.
Missouri State Medical Association, St. Louis, May 17-20. Dr. E. J. Goodwin, 901 Missouri Building, St. Louis, Secretary.
Nebraska State Medical Association, Omaha, May 11-13. Dr. R. B. Adams, McKinley Building, Lincoln, Secretary.
New Hampshire Medical Society, Concord, May 25-26. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.
New Mexico Medical Society, Albuquerque, May 19-21. Dr. C. M. Yater, 310 N. Richardson Avenue, Roswell, Secretary.
North Dakota State Medical Association, Minot, May 25-26. Dr. A. J. McCannell, Minot, Secretary.
Ohio State Medical Association, Toledo, May 11-13. Mr. Don K. Martin, 131 E. State Street, Columbus, Executive Secretary.
South Carolina Medical Association, Sumter, April 6-8. Dr. E. A. Hines, Seneca, Secretary.
South Dakota State Medical Association, Aberdeen, May 19-20. Dr. John F. D. Cook, Langford, Secretary.
Tennessee State Medical Association, Memphis, May 11-13. Dr. J. F. Gallagher, Jackson Building, Nashville, Secretary.
Texas, State Medical Association of, Houston, May 24-27. Dr. Holman Taylor, 207½ West 11th Street, Fort Worth, Secretary.
Utah State Medical Association, Salt Lake City, May 6-8. Dr. F. B. Steele, Boston Building, Salt Lake City, Secretary.
West Virginia State Medical Association, Morgantown, May 25-27. Mr. S. O. Neale, 211 Smallridge Building, Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1924. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

Annals of Surgery, Philadelphia

73: 1-160 (Jan.) 1926

Diverticula of Esophagus. C. Jackson and T. A. Shallow, Philadelphia.—p. 1.

Odontoid Ossicle of Second Cervical Vertebra. T. W. Todd and J. D'Errico, Cleveland.—p. 20.

*Danger in Use of Lipiodol in Diagnosis of Obstructive Lesions of Spinal Canal. W. Sharpe and C. A. Peterson, New York.—p. 32.

*Radical Breast Operation with Endotherm Knife (Acusector) and Without Ligatures. H. A. Kelly and G. E. Ward, Baltimore.—p. 42.

*Treatment of Gallstones. K. H. Digby, Hong Kong, China.—p. 47.

*Rupture of Intrahepatic Bile Duct with Fatal Peritonitis. W. Smith, Ladysmith, Wis.—p. 55.

Mechanism of Intestinal Perforation Due to Distention. F. T. van Beuren, Jr., New York.—p. 69.

*Iliohypogastric Nerve in Relation to Herniotomy. E. Andrews, Chicago.—p. 79.

*Multiple Sacs in Inguinal Hernia. A. McQueeney, Bridgeport, Conn.—p. 81.

Dislocation of Shoulder. J. H. Stevens, Boston.—p. 84.

Arthrodesis of Elbow. A. P. C. Ashurst, Philadelphia.—p. 104.

Repair of Wounds of Flexor Tendons of Hand. J. H. Garlock, New York.—p. 111.

*Skin Flap Cover for Projecting Intestine. M. E. Steinberg, Portland, Ore.—p. 123.

Perineal Elevator. C. Y. Bidgood, Hartford, Conn.—p. 126.

*Stitch Interpolation in Arterial and Venous Anastomosis. C. Deedera, New York.—p. 131.

Danger of Lipiodol Injections into Spinal Canal.—One cc. of the iodized oil preparation of lipiodol, as manufactured by L. Lafay, Paris, and considered nonirritating to spinal structures, was injected by Sharpe and Peterson by lumbar or cisterna magna puncture into the spinal theca of three patients. The results were of definite diagnostic value in all three cases, but in one case such an inflammatory reaction occurred to the arrested lipiodol at the site of the spinal block in the middorsal area that the patient's symptoms and signs were aggravated to a degree necessitating its removal at a later operation of laminectomy, at which were disclosed two encysted globules of lipiodol surrounded by numerous newly formed adhesions. Roentgenograms of all three patients revealed the unabsorbed lipiodol in the spinal canal, even after an interval of fifteen months following the injection.

Advantages of Acusector.—The advantages accruing from the use of the acusector, according to Kelly and Ward, are: lymphatics, capillaries and small blood vessels are sealed, limiting the number of clamps applied; few or no ligatures are used. Primary union is the rule; the actual depth of tissue destruction on each side of the acusector is 0.1 mm. It is suggested that primary union is promoted because of sterilization of the skin edges.

Treatment for Gallstones.—Digby advocates the following principles in the treatment of cholelithiasis: Operation should be undertaken as soon as a reasonably probable diagnosis of gallstones has been reached. Very free exposure of the biliary tract is desirable, preferably by an angled incision, such as Perthes'. The bile duct should be opened just above the duodenum as a routine measure and the main ducts explored thoroughly from within as well as from without. The removal of the gallbladder and cystic duct should generally though not invariably be practiced, the use of a metal T tube protecting the main ducts from risk of injury.

Rupture of Intrahepatic Bile Duct.—Smith reports an instance of spontaneous perforation of an intrahepatic bile duct, following complete obstruction of the common duct. When perforation occurred, the general peritoneal cavity was flooded with infected bile, and a fulminating peritonitis resulted.

Iliohypogastric Nerve in Relation to Herniotomy.—Andrews interprets the results of his experiments by assuming that the iliohypogastric nerve is motor to the lower fibers of the internal oblique muscle, but that all the motor fibers are given off before the nerve enters the field of operation for hernia, and that, therefore, accidental section of this nerve will not cause any paralysis of this muscle.

Multiple Sacs in Inguinal Hernia.—McQueeney believes that careful examination of cases of inguinal hernia will reveal a large percentage with two sacs—an indirect thin walled sac and a direct fatty sac. During the last four years, nine cases, approximately 7 per cent, with multiple sacs have been noted in a total of 129 cases of various kinds of hernia. Multiple sacs were usually found in fat persons between the ages of 35 and 50.

Skin Flap Cover for Projecting Intestine.—Steinberg describes a method to bring the hollow viscera outside of the abdomen in such a manner as to cause a permanent protrusion beyond the plane of the abdominal wall. The peritoneal lining of the viscus is surrounded with pedicled flaps of skin taken from the abdominal wall. It is suggested that the method might be valuable in performing a colostomy.

Stitch Interpolation in Blood Vessel Anastomosis.—The rule given by Deedera as applicable to venous suture is as follows: The depth of the stitch behind the free margin *should be equal to the distance between the stitches.* This means that when the suture is drawn to close the line of repair, the tissue between opposite stitch holes is double the amount of tissue between adjacent stitch holes. The slight increase in mass of tissues in apposition is sufficient to exert pressure laterally and thus counteract the tendency to constriction of the lumen.

Journal of Experimental Medicine, Baltimore

43: 1-142 (Jan.) 1926

*Chemical Study of Specific Elements of Tuberculin. I. J. H. Mueller, Boston.—p. 1.

Id. II. Preparation of Residue Antigen from Old Tuberculin. J. H. Mueller, Boston.—p. 9.

*Hemolytic Streptococci in Acute Rheumatic Fever: Analysis of Antigenic Relationships Existing Among Certain Strains. C. H. Andrewes, C. L. Derick and H. F. Swift, New York.—p. 13.

*Production of Albuminuria by Renal Vasoconstriction in Animals and Man. I. Starr, Jr., Philadelphia.—p. 31.

Stability of Acid-Base Equilibrium of Blood in Pregnancy Animals. W. deB. MacNider, Chapel Hill, N. C.—p. 53.

Studies on Roentgen-Ray Effects. XIV. Effect on Division Rate of Paramecium. R. T. Hance and H. Clark, New York.—p. 61.

*Bacteriophage of d'Herelle. V. Effect of Electrolytes on Rate of Inactivation of Bacteriophage by Alcohol. J. J. Bronfenbrenner and C. Korb, New York.—p. 71.

*Production of Purpura by Derivatives of Pneumococcus. L. A. Julianelle and H. A. Reimann, New York.—p. 87.

*Id. II. Effect of Pneumococcus Extract on Blood Platelets and Corpuscles. H. A. Reimann and L. A. Julianelle, New York.—p. 97.

Serologic Relationships of Type Specific and Degraded Pneumococci. H. A. Reimann, New York.—p. 107.

*Thymectomy in Rabbit. C. M. Van Allen, New York.—p. 119.

Surface Composition of Normal and Sensitized Mammalian Blood Cells. S. Mudd and E. B. H. Mudd, Philadelphia.—p. 127.

Specific Elements of Tuberculin.—A nonprotein gum has been isolated by Mueller from broth filtrates of human tubercle bacilli grown on a simple medium. It fixes complement and precipitates in high dilution in the presence of homologous immune serum, but fails to give a skin test in tuberculous animals. The preparation and some of the chemical properties of the substance are described.

Streptococci in Acute Rheumatic Fever.—Thirteen strains of hemolytic streptococci isolated by Andrewes, Derick and Swift from patients with acute rheumatic fever did not show any evidence of being related serologically.

Renal Vasoconstriction Causes Albuminuria.—Experiments are described by Starr which show that agents causing renal vasoconstriction also cause transient albuminuria in anesthetized eviscerated dogs. Evidence was obtained that ephedrine is not intrinsically injurious to the kidney. The observed facts may be explained by the conception that renal vasoconstriction causes increase in the duration and extent of the normal intermittent interruptions in the glomerular circulation. Permeability of the glomerular membranes is so increased by these lengthened interruptions that when blood flow is reestablished, albumin escapes. It is believed that this conception may apply to those albuminurias in man which result from excessive muscular exercise or emotion or which are produced reflexly. It may explain the occurrence of albumin in the urine of normal people and in healthy laboratory animals; it may play a part in the explanation of the albuminuria which occurs after anesthesia or in cardiac decompensation. Its possible relation to orthostatic albuminuria is discussed.

Inactivation of Bacteriophage.—Bronfenbrenner and Korb found that addition of neutral salts to the lytic filtrate results in an increased rate of inactivation of the latter when alcohol is added to it. This effect of salts is the more marked the higher the valency of the cation. Conversely, removal by dialysis of salts originally present in the lytic filtrate tends to render the lytic agent less sensitive to alcohol. It appears that inactivation of the lytic agent by alcohol depends directly on the rate of precipitation of the coagulable constituents of the medium, and is not the result of a direct toxic action of alcohol on "bacteriophagum intestinale." These results speak in favor of the chemical nature of the agent of transmissible lysis.

Pneumococcus Extracts Produce Purpura.—Pneumococcus extracts have been shown by Julianelle and Reimann to be capable of producing hemorrhagic purpura in white mice, rabbits, and guinea-pigs. The purpura producing principle resists heating to 100 C. for ten minutes: it resists oxidation; it is filter passing; its activity is destroyed by digestion with trypsin; it is obtained from pneumococcus extracts by full saturation with ammonium sulphate after the acetic acid precipitable substances have been removed from the extracts. The purpura producing principle is common to all four types of pneumococcus and apparently bears no relation to virulence. This principle is not associated with the hemotoxin of pneumococcus, since the hemolytic activity of an extract may be destroyed without effect on the ability to cause purpura.

Effect of Pneumococcus Extract on Blood Cells.—A study has been made by Reimann and Julianelle on the variation in number of the blood platelets, and the erythrocytes and leukocytes of white mice injected with pneumococcus extract. The blood platelets were greatly diminished after the injection, the greatest decrease usually occurring after twenty-four hours. Purpuric lesions usually developed when the number of blood platelets became less than 500,000 per cubic millimeter. Regeneration of the platelets was accomplished by the fourth to the ninth day but there was an overregeneration and the return to normal did not take place until two weeks had elapsed. The erythrocytes were also greatly reduced in number but the rate of their destruction and regeneration was somewhat slower than that of the platelets. The leukocytes were slightly, if at all, influenced by the pneumococcus extract. Pneumococcus extracts were shown to be thrombolytic and hemolytic. Heat destroyed the activity of both the lysins in vitro. Heated extract produced purpura in mice but did not cause a severe anemia. Extracts adsorbed with either blood platelets or erythrocytes showed a marked diminution in their thrombolytic and hemolytic activity in vitro. Such extracts, however, produced purpura as well as severe anemia and thrombopenia in mice.

Thymectomy in Rabbit.—The object of Van Allen's investigation was to determine whether the thymus could be removed completely from rabbits of certain ages without producing any serious disturbance of health which would interfere with their use in other experiments or complicate the interpretation of results. It was found that this could be done.

Journal of Laboratory and Clinical Medicine, St. Louis

11: 307-404 (Jan.) 1926

*Diagnostic Value of Cerebrospinal Fluid Sugar Content. W. P. Stowe, Rochester, N. Y.—p. 307.
How Can We Best Promote Objects Contained in Article Two of Our Constitution? H. Spitz, Nashville, Tenn.—p. 312.
*Pharmacology of Benzyl Alcohol: Its Esters. V. Sodium Benzyl Succinate "Benzycin" and Sodium Dibenzyl Phosphate "Benzyphos." C. M. Gruber, St. Louis.—p. 318.
*Glycolysis at Varying Blood Sugar Levels. I. I. Lemann and R. T. Liles, New Orleans.—p. 339.
Therapeutic Dyes. I. Mercurochrome-220 Soluble. R. W. French, Washington, D. C.—p. 349.
*Polychrome Stains. I. Substitute for Giemsa's Stain. R. W. French, Washington, D. C.—p. 352.
*Basal Metabolism. VIII. Tables of Values of Du Bois Surface Area Formula. W. H. Stoner, Philadelphia.—p. 355.
*Stability of Standard Kahn Antigen. P. L. Kendrick and D. Jenks, Lansing, Mich.—p. 369.
Outfit for Collection of Serum by Physicians for Dark-Field Examination in Suspected Syphilis. W. R. Stokes and C. L. Ewing, Baltimore.—p. 732.
Blood Uric Acid. Comparative Results by Three Methods, and Technic Necessary for Accurate Estimation. W. P. Holbrook and H. D. Haskins, Portland, Ore.—p. 377.
*Method for Staining Nerve Cells en Block with Basic Aniline Dyes. F. Proescher and A. S. Arkush, Agnew, Calif.—p. 382.
Method of Blood Grouping Where Only One Known Group Is Available. W. L. Vogel, Riverside, Calif.—p. 386.

Cerebrospinal Fluid Sugar Content.—Stowe places the sugar content of normal cerebrospinal fluid in the neighborhood of 75 mg. per hundred cubic centimeters. In cases of neurosyphilis, lethargic encephalitis and other neurologic and nonneurologic conditions, other than the meningitides, the deviation from the normal range and median point is so slight as to be without diagnostic significance. Tuberculous meningitis gives values so definitely above the purulent meningitis cases and so definitely below all other conditions that an almost certain diagnosis can be made quickly in this disease. The occasional purulent fluids obtained after intraspinous therapy, in brain tumor cases with necrosis or hemorrhage near the ventricles and in sympathetic aseptic meningitis, can be delimited rapidly by their normal sugar content from infective meningitis in which the causative organism may not be found promptly. The presence of pus cells alone in the cerebrospinal fluid does not reduce its sugar content. Two of Stowe's cases are interesting in that obstruction to the flow of cerebrospinal fluid at the base of the brain in the one and at the lower dorsal spinal level in the other did not produce any essential difference in the sugar content above and below the lesion. This would suggest that the diffusion of sugar into the cerebrospinal fluid occurs throughout the cerebrospinal axis rather uniformly and not through the choroid plexus alone.

Pharmacology of Benzyl Alcohol.—Gruber's results with the water soluble benzyl derivatives, sodium benzyl succinate and sodium dibenzyl phosphate, confirm former views that the benzyl esters are extremely unreliable for reducing blood pressure. More than 67 per cent of the injections of the former and 35 per cent of the injections of the latter resulted in increased blood pressure. Benzyl alcohol, benzoate and acetate produced rises in blood pressure in 8 per cent of the injections. If a sufficient dose is given to produce a fall in blood pressure, the first effect on the cardiovascular system appears to be slowing the rate and dilatation of the heart with weakened contraction. The respiratory center is always first to be affected, in all injections. Usually there is acceleration in rate preceding the paralysis. It succumbs readily to comparatively small doses and is affected long before the heart is involved. The heart frequently beats some minutes after cessation of respiration. Occasionally an asphyxial rise in blood pressure is noted after cessation of respiration, showing that the vasomotor center has not been paralyzed simultaneously with the respiratory center. Sodium dibenzyl phosphate was found to be more toxic and consequently more depressant to all tissues tested than was sodium benzyl succinate.

Glycolysis at Varying Blood Sugar Levels.—This report by Lemann and Liles indicates that glycolysis proceeds at a lessened rate when the level of blood sugar is raised, not only by glucose (or other food) ingestion, but also by intravenous glucose infusion. The characteristic behavior of glycolysis in diabetic blood specimens may be related to the quantitative level of the blood sugar rather than to any essential quality of the blood. Administration of insulin does not affect the characteristic behavior of glycolysis either in diabetic or in nondiabetic blood. No important rôle is to be attributed to oxalate in evaluating the inhibition of glycolysis.

Substitute for Giemsa Stain.—The substitute for Giemsa stain submitted by French has the following composition: eosin, 1.25 Gm.; methylene blue, 1.25 Gm.; methylene azure A (MacNeal), 0.75 Gm.; methylene violet (Bernthsen), 0.25 Gm.;

methyl alcohol, absolute, 375.0 cc.; glycerin (anhydrous), 125.0 cc. The proportion of the components is the same as that used by MacNeal in the tetrachrome stain, though the concentration is much greater to allow of the customary Giemsa technic. These proportions are said to give the correct blue elements for a complete differential staining of the basic components.

Basal Metabolism Studies.—Values of the DuBois formula for human surface area are tabulated by Stoner by unit centimeter and kilogram intervals for individuals of from 110 to 200 cm. in height and of from 20 to 100 Kg. in weight.

Stability of Standard Kahn Antigen.—Kendrick and Jenks recommend their zinc method for use whenever it is necessary to make a check on the results by the direct method. It is much cheaper and a little quicker than the silver lactate method.

Methylene Azur Stain for Nerve Cells.—Proescher and Arkush have found that methylene azur (thiazin red) and toluidin blue are the only stains of value. They recommend methylene azur, which can be easily prepared in any desired quantity from methylene blue by oxidation with sodium peroxide. The crude methylene azur should be recrystallized, at least three times, from redistilled alcohol. The dyes are dissolved in alkalized chemically pure ethyl or methyl alcohol. They have adjusted the alcoholic solution to ion concentrations varying from p_H values of 7.4 to 12.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Anaesthesia, Manchester

3: 109-164 (Jan.) 1926

Carbon Dioxide in Anesthesia. S. R. Wilson.—p. 112.
Cerebral Hemorrhage During Local Anesthesia. W. J. McCardie.—p. 119.
Gas and Oxygen Anesthesia in Relation to Its Safety to Patient. J. R. Mackenzie.—p. 122.
Post-Anesthetic Toxemias. S. R. Wilson.—p. 126.
Nitrous-Oxide-Acetylene-Oxygen Anesthesia for Extraction and Oral Surgery. A. Goldman and J. D. Goldman.—p. 133.

British Journal of Ophthalmology, London

10: 65-112 (Feb.) 1926

Inflammatory Pseudo-Tumor of Orbit. F. A. Williamson-Noble.—p. 65.
Two Cases of Cerebral Aneurysm Causing Ocular Symptoms. J. A. Conway.—p. 78.

British Medical Journal, London

1: 175-224 (Jan. 30) 1926

New Outlook on Cancer. W. Cramer.—p. 175.
*Surgical Treatment of Angina Pectoris. D. Danielopolu.—p. 180.
Case of Abdominal Torsion of Omentum. F. R. Brown.—p. 183.
*Method of Estimating Size of Enlarged Prostate. C. Fenwick.—p. 184.
Operative Treatment of Acute Perforated Ulcer of Stomach and Duodenum: Sixty-Seven Cases. A. J. Evans.—p. 184.
*Treatment of Threatened Gangrene of Arm Due to Injury of Main Artery. P. McEwan.—p. 186.
Common Sense. L. G. J. Mackey.—p. 211.
Prophylactic Value of Scarlet Fever Antitoxin. D. C. Kirkhope.—p. 214.
Novarsurol and Other Diuretics in Cardiac Edema. R. Howarth.—p. 186.
Escape from Sympathetic Ophthalmia. L. L. Steele.—p. 187.
Torsion of Fallopian Tube. J. C. Gillies.—p. 187.

Surgical Treatment of Angina Pectoris.—Danielopolu does not agree with Mackenzie that anginal patients should never be treated surgically. The Jonnesco method involving the removal of the stellate ganglion may, perhaps, be abandoned, but the method Danielopolu suggests is said to be far more hopeful, and offers much promise in practice. It consists of intercepting the maximum number of the sensory cardio-aortic fibers without interference with the important groups of the cardiac accelerators. Jonnesco's operation, in which the stellate ganglion is removed, does not fulfill these conditions.

Estimating Size of Prostate.—Fenwick measures the width, length and thickness of the prostrate in a very simple manner by means of probes and then constructs a model with dental wax.

Treatment of Threatened Gangrene.—In two cases cited McEwan made very free incisions in the deep fascia over the whole area of tension. The results are taken to mean that relief of tension was the essential point in treatment. The absence of interference with the actual lesion of the artery, leaving the collateral circulation as intact as possible, contributed to the successful result.

Glasgow Medical Journal

105: 1-80 (Jan.) 1926

Clinical Aspects of Ischemic Necrosis of Heart Muscle. A. G. Gibson.—p. 1.
Electrocardiographic Evidence of Myocardial Disease. J. Cowan.—p. 4.
Diseased Gallbladder. C. Bennett.—p. 17.
Psychologic Factor in Physical Disease. D. Yellowlees.—p. 31.

Journal of Anatomy, London

60: 122-232 (Jan.) 1926

Modern Egyptian Cranium. S. Smith.—p. 122.
Superficial Venous System of Lower Extremity. C. Kosinski.—p. 131.
Innervation of Ventricle of Human Heart. A. Blackhall-Morison.—p. 143.
*Rare Type of Congenital Club Hand. H. W. Jones and R. E. Roberts.—p. 146.
Congenital Absence of Middle Turbinate Bone Associated with Precocious Ossification of Limb Bones in Stillborn Female. H. A. Harris.—p. 149.
Pelvic and Thigh Muscles of Ornithorhynchus. H. S. Pearson.—p. 152.
Orbito-Ethmoidal Region in Cyclostomata, Plagiostomi and Teleostomi. E. P. Allis, Jr.—p. 164.
Hyomandibula of Selachii, Teleostomi and Ceratodus. F. H. Edgeworth.—p. 173.
Valve in Splenic and Mesenteric Veins of Sheep. K. J. Franklin.—p. 194.
Rotary Movements of Wrist. E. F. Cyriax.—p. 199.
Transposition of Abdominal Viscera. N. Pan.—p. 202.
Action of Roentgen Rays on Developing Chick Embryo. H. A. Colwell, R. J. Gladstone and C. P. G. Wakeley.—p. 207.
Three Cases of Right-Sided Sigmoid Colon. B. Bhattachayya.—p 229.

Congenital Clubhand.—A case of defect of the ulna, associated with syndactylism and partial ectrodactylism is reported by Jones and Roberts. The arm was normal as far as the elbow but beyond this the forearm was markedly shortened and bowed outward—while the hand was represented by two fingers fused together, but with separate nails, the smaller one being on the outer side. The other hand and the feet were normal.

Journal of Pathology and Bacteriology, Edinburgh

29: 1-140 (Jan.) 1926

Identification of So-Called B. Mycoides Corallinus as Streptothrix. V. B. Reader.—p. 1.
*Production of Experimental Endocarditis with Pneumococci and Streptococci in Immunized Animals. H. D. Wright.—p. 5.
Inhibition of Bacterial Growth by Some Amino-Acids; Tryptic Digests as Culture Mediums. J. Gordon and J. W. M'Leod.—p. 13.
Laboratory Epidemic in Rats Due to Gaertner's Bacillus. N. D. Ball and C. Price-Jones.—p. 27.
Antigenic Value of Toxin-Antitoxin Precipitate of Ramon. A. T. Glenny, C. G. Pope, H. Waddington and U. Wallace.—p. 31.
*Sacrococcygeal Chordoma. M. J. Stewart and J. E. Morin.—p. 41.
Id. W. A. Alexander and H. W. Struthers.—p. 61.
*So-Called Calcification in Basal Ganglia of Brain. E. W. Hurst.—p. 65.
*Experiments on Influence of Fatigue on Infection. A. E. Boycott and C. Price-Jones.—p. 87.
*Nature of Movements of Omentum. G. Florey, J. L. Walker and H. M. Carleton.—p. 97.
*Action of Extracts of Mesenteric Lymph Glands on Leukocytes. R. G. Mole.—p. 107.
Number of Lymphoid Follicles of Human Large Intestine. C. Dukes and H. J. R. Bussey.—p. 111.
Dissecting Diverticula of Appendix. J. A. Jenkins.—p. 118.
Combined Schick Test and Diphtheria Prophylactic; Combined Diphtheria-Scarlet Fever Prophylactic. A. T. Glenny and H. Waddington.—p. 118.

Experimental Endocarditis.—Endocarditis has been produced by Wright by injection of pneumococci into immunized rabbits and by repeated injections of nonhemolytic streptococci into rabbits. The lesion so produced has the features of an acute process. There is evidence of marked antibody production by such animals which at the same time show a progressively increasing septicemia such as is found in subacute infective endocarditis in man. The precise conditions for the production of this condition have not been determined.

Sacrococcygeal Chordoma.—Stewart and Morin report the third case of chordoma occurring in Leeds, review the recent literature of the subject and give an account of the fundamental and more or less constant symptomatology of sacrococcygeal chordoma from which, as in the present instance, it is often possible to make a reasonable probable diagnosis even before biopsy. They also describe a recent typical example of chordal heterotopia (ecchordosis physaliphora spheno-occipitalis).

Calcification in Basal Ganglions of Brain.—The so-called "calcification" of the arteries in the anterior half of the globus pallidus is an extremely common occurrence and is found in many diseases affecting various parts of the central nervous system. It was present in fifty of 100 brains examined by Hurst and at all age periods between 20 and 81. The deposit may occur chiefly in the media or it may primarily affect the adventitia and spread to the media later; in cases of atherosclerosis it may also occur in the intima. Often deposits are seen at the peripheral margin of the Virchow-Robin space. The process consists in the infiltration of one or more coats of the vessel with iron salts, the application of suitable tests failing to show the presence of calcium. In the majority of these cases, and in others not showing vascular deposits, degeneration bodies, frequently infiltrated with iron salts, are found in the lenticular nucleus and especially in the globus pallidus. They were present in the globus pallidus in 68 per cent of the cases; in the putamen in 30 per cent. The presence of these vascular deposits and of degeneration bodies is an expression of the proclivity of the affected regions to undergo degeneration in the second half of life, even when not directly affected by the disease to which the patient succumbs. The deposition of iron salts is to be correlated with the high iron content of these parts of the brain.

Effect of Fatigue on Infection.—Fatigue had no influence on the mortality of rats after Boycott and Price-Jones had inoculated them with Gaertner's bacillus. After feeding, Gaertner's bacillus finds its way into the spleens of both fatigued and normal rats, but fatigue much increases the illness and mortality. Repeated fatigue did not break down the natural resistance of the rat to tuberculosis.

Nature of Movements of Omentum.—Experiments made by Florey, Walker and Carleton show that the omentum is totally incapable of any intrinsic movements. The agents whereby the omentum is passively moved about in the abdominal cavity are posture, peristalsis and diaphragmatic movements. Its powers of adhesion and encapsulation are intrinsic.

Effect of Mesenteric Lymph Gland Extract on Leukocytes.—The saline extract prepared by Mole from the mesenteric lymph glands of a spleenless rabbit seems to have a specific effect in producing an increased leukocyte count in the spleenless rabbit. It has not this effect on the normal rabbit whose leukocytes tend rather to decrease after the injection.

Lancet, London

1: 215-268 (Jan. 30) 1926

Chemotherapy of Syphilis. C. Levaditi.—p. 215.
Manipulative Treatment. W. R. Bristow and R. C. Elmslie.—p. 218.
*Effect of Pasteurization on Infectivity of Milk of Tuberculous Cows. R. G. White.—p. 222.
*Pernicious Anemia of Aplastic Type; Phagocytosis of Erythrocytes. L. E. H. Whitby and R. Jackson.—p. 226.
*Biochemical Action of Intravenous Antimony Tartrate Injections. J. B. Christopherson and S. R. Gloyne.—p. 227.
Case of Amebic Dysentery Contracted in England. M. N. Russell. —p. 229.
Syringomyelia of Thirty Years' Duration. W. S. Medley.—p. 229.

Effect of Pasteurization on Tuberculous Milk.—Experiments have been carried out by White with naturally infected milk from cows with tuberculous udders, with milk contaminated with cultures of tubercle bacilli, and with milk to which ground-up caseous tuberculous glands have been added. The method employed was to raise the temperature of the milk to 62.5 C. and to keep it at this temperature for thirty minutes. The results obtained by inoculating such pasteurized milk into guinea-pigs have shown clearly that pasteurization carried out under these conditions ensures a noninfective milk so far as *B. tuberculosis* is concerned.

Pernicious Anemia of Aplastic Type.—In the case reported by Whitby and Jackson the clinical findings and blood picture were similar to those found in the aplastic type of pernicious anemia occurring among munition workers during the late war. It is a significant fact that the patient was by trade a "film varnisher"—an occupation involving the continuous use of some form of "dope"—but the authors were unable to trace any previous cases of disease among such workers or to find any evidence for the occupation being the primary cause of the disease.

Action of Antimony Tartrate Injections.—Patients subjected to a prolonged course of intravenous injections of antimony frequently exhibit signs of hypersensitivity—presumably an example of drug allergy—with nontoxic doses. It is suggested by Christopherson and Gloyne that the signs of this hypersensitivity may be due to an alteration of protein metabolism and in extreme cases may resemble true protein shock. The viscera of a man who had died from accidental error of dose of intravenous antimony showed degeneration and destruction of the parenchyma of liver and kidneys. Four rabbits succumbed to intravenous injections of antimony tartrate in doses ranging from ⅛ grain to ½ grain. The postmortem changes noted in these animals were: (*a*) dilation of blood capillaries, (*b*) effusions into serous membranes (pericardium and peritoneum), (*c*) hemorrhages into lungs and spleen, and (*d*) retention of urine. The chief histologic lesion noted in these animals was degeneration of the hepatic cells. Similar, but less constant and less marked, degenerative changes were found in the kidney tubules. An attempt was made to protect a rabbit against the toxic effects of antimony by injecting sodium thiosulphate shortly after each dose of the antimony. The animal died after receiving 4½ grains of antimony over a period of twenty-three days. One rabbit of the preceding series, died after receiving 4⅛ grains in sixteen days without attempted protection with sodium thiosulphate.

Medical Journal of Australia, Sydney

1: 29-54 (Jan. 9) 1926

Chronic Ulcer of Leg. F. Maclure.—p. 29.
Treatment of Cancer by Low Grade Heat. D. Kelly.—p. 34.
Some Experiences with Gullstrand's Slit Lamp. J. F. Spring.—p. 36.

Practitioner, London

116: 89-176 (Feb.) 1926

Some Pitfalls in Medical Diagnosis. B. Bruce-Porter.—p. 89.
Difficulty of Accurate Diagnosis. T. Myles.—p. 95.
Modern Diagnosis of Nervous Diseases. E. F. Buzzard.—p. 101.
Value of Examination of Cerebrospinal Fluid. J. G. Greenfield.—p. 108.
Direct Endoscopy of Lower Air Passages and Upper Food Tracts in Diagnosis. W. Hill.—p. 119.
Radiography of Renal Tract. R. Knox.—p. 125.
Roentgen Rays in Diagnosis. I. Diseases of Lungs and Pleura. D. Lawson.—p. 132.
Id. II. Fractures and Dislocations. J. H. D. Webster.—p. 138.
Id. III. Gastro-Intestinal Disorders. A. C. Jordon.—p. 153.
Id. IV. Dental Diseases. J. M. Redding.—p. 161.

Bulletin de l'Académie de Médecine, Paris

95: 99-117 (Feb. 2) 1926

Modes of Expression of Great Emotions. Guéniot.—p. 101.
*Vaccination Against Tetanus. C. Zoeller and G. Ramon.—p. 104.
Three Species of "Penicillium." A. and R. Sartory.—p. 114.

Anatoxin for Vaccination Against Tetanus.—Zoeller and Ramon's research was made on 100 subjects. After one subcutaneous injection of 0.5 or 1 cc. of anatoxin, the serum from the vaccinated subjects, a month later, did not immunize guinea-pigs against one lethal dose of toxin. A month after an injection of 2 cc. of anatoxin, given fifteen days later, the serum neutralized from one to ten lethal doses of toxin. Repeated injection evidently enhanced the acquired reactivity. Serum from subjects given three injections of anatoxin neutralized from 500 to 3,000 lethal doses of tetanus toxin, after eight days. In seven persons, anatoxin was injected simultaneously with 5 cc. of tetanus antiserum; the amount of antitoxin as well as the acquired reactivity appeared unchanged. Under associated injections of anatoxin and antityphoid vaccine, the acquired reactivity was enhanced, and agglutination of typhoid bacilli occurred as usual. An active immunity was thus induced simultaneously against typhoid and tetanus. Antiserum treatment still remains the method of choice in emergency cases, since the development of active immunity is slow. The antiserum and anatoxin can be advantageously combined: the first to avert immediate manifestations of the tetanus; the second, tardy occurrence. The injections of anatoxin were not accompanied by any untoward by-effects.

Bulletins de la Société Médicale des Hôpitaux, Paris

50: 63-122 (Jan. 22) 1926

Two Cases of Dextrocardia. A. Clerc and R. Lévy.—p. 63.
Case of Infantilism. Baudouin et al.—p. 72.
*Epidemic Resembling Encephalitis. David and Dekester.—p. 75.
*Hypertension-Inducing Action of Salt. L. Ambard and R. Cahn.—p. 77.
*The Alkali Reserve. L. Ambard et al.—p. 80.
Multiple Manifestations of Syphilis. Bariéty and Kaplan.—p. 85.
Amyotrophic Paraplegia of Rheumatic Origin. Raynaud et al.—p. 90.
*Parkinsonian Tremor Associated with Rheumatism. E. May.—p. 94.
*Tonus of the Vagus in Hyperthyrosis. A. Krause.—p. 98.
*Sodium Citrate and Arterial Tension. M. Renaud.—p. 102.
*Action of Drugs on Gallbladder Contraction. M. Chiray et al.—p. 103.
*Visualization of Duodenum and Gallbladder. M. Chiray.—p. 115.

An Epidemic of a Special Form of Encephalitis.—David and Dekester describe an epidemic observed last November in a suburb of Lille. Their statistics include six children, twenty-five women and nineteen men. Five or six members of the family became ill at once, but no cases of contagion were noted in the environment. After a short incubation, the disease started with swelling of the face and eyelids, conjunctivitis and high fever. Then pain appeared in the legs, soon followed by paraplegia with abolition of the reflexes, but without disturbances of the sphincters. This was accompanied by contraction of the muscles of the spine, nuchal rigidity and Kernig's sign. The whole body became almost as stiff as a board. The oculomotor centers seemed to be intact, while there was involvement of the bulbar centers, especially of the glossopharyngeal and vagus nerves. The sensory and mental condition appeared normal. Arterial hypotension was associated with hypotension of the cerebrospinal fluid. Edema of the legs was sometimes manifest late in the disease, but there was no albumin in the urine. The morbid phenomena disappeared in from eight to fifteen days in mild cases; in grave cases death usually occurred within a few weeks. Cultures of the blood and cerebrospinal fluid were negative; the affection may have been induced by a neurotropic virus, possibly analogous to that in encephalitis. The special features of this encephalitis may be explained by localization of the virus in the spinal cord and medulla oblongata instead of in the mesencephalon. Cases of low encephalitis, of polyneuritic type, have been reported before (Beriel and Devic).

Hypertension-Inducing Action of Salt.—Ambard and Cahn report the case of a man with hypertension who developed acute edema of the lungs, for which salt in the food appeared to be responsible. The hypertension was accompanied by albuminuria, uremia and dry chloride retention; there was no dropsy. On a salt-free diet the arterial tension declined, but it increased rapidly by 4 cm. of mercury when the restriction of salt was suspended. Evidently the rise in the blood pressure did not depend on the edema, but probably on the concentration of chlorine in the tissues.

Variations of the Alkali Reserve.—Ambard, Schmid and Adnot's conclusions are based on five observations. A manifest connection seems to exist between the content of sodium chloride in the food and the alkali reserve. The latter increases under restriction of salt, and decreases with its intake. The phenomenon is manifest in healthy persons; still more in those with different kidney diseases. No correlation seems to exist between the alkali reserve and the chlorine of the plasma. It is possible that an excessive concentration of chlorine in the respiration centers modifies the ventilation of the lungs, indirectly reducing the alkali reserve. Thus may be explained why there is no close relation between the uremia and the alkali reserve in nephritis, since there is no close relation between uremia and chlorine retention.

Parkinsonian Tremor on One Side, Arthritis on the Other.—May reports two cases of a parkinsonian syndrome in men, aged 60. The tremor was limited to the left arm, with acute arthritis of the right hand with contracture. Both affections appeared simultaneously, soon after herpes zoster. This seems to demonstrate that an infection of the nervous system may be the common origin of both. The presence of diplopia in one case, and of attacks of somnolency in the other suggest that a masked epidemic encephalitis may have been the causal factor. Tentative treatment as for syphilis proved futile. The condition has persisted for eighteen months to date in one case; a delusion of persecution developed the fourth month in the other patient, compelling institutional restraint.

Tonus of the Vegetative System in Hyperthyrosis.—Krause studied the vagosympathetic tonus of 100 patients. He gives here the results in two with exophthalmic goiter, two with hyperthyroidism and five with pulmonary tuberculosis of pseudothyroid type. Exaggerated tonus of the sympathetic and vagus was noted only in one; predominantly of the sympathetic in eight, while the tonus of the vagus remained normal or even decreased.

Rise of Arterial Tension from Sodium Citrate.—Renaud relates that large doses of sodium citrate, from 8 to 12 Gm., were given to twelve patients with arteriosclerosis. This induced gradual increase of both the systolic and diastolic arterial tension. No functional disturbances of any kind were observed. As soon as the intake of the citrate was suspended, the tension became normal within two or three days. Sodium citrate may exert a direct action on the center controlling the tension. The blood pressure should be carefully examined in cases of prolonged administration of the drug.

Action of Certain Substances on Contraction of the Gallbladder.—In some of the cases described, the use of the duodenal tube and injection of magnesium sulphate had been preceded by subcutaneous injection of pilocarpine. The drug appeared to enhance the stimulating action of the magnesium sulphate on the secretion of bile. Chiray, Lebon and Callegari's further experiments confirmed that pituitary extract induces contraction of the gallbladder. The contraction was rapid, durable and strong, even in the cases in which direct stimulation of the gallbladder had been of no avail. Probably, the influence of the drugs on gallbladder contraction is due to their action on the vagus. Thus the use of these drugs may be indicated in stasis of the gallbladder from atony, a condition which is at least as frequent as mechanical stasis from pericholecystitis, stenosis or gallstones. It is thus possible by general medication to induce a kind of physical training of the gallbladder. Two patients treated on this basis were materially improved, overcoming the stasis of the gallbladder. The pituitary extract test may reveal the real condition of the gallbladder, and therefore indicate whether a cholecystectomy is necessary or not.

Visualization of the Duodenum and Gallbladder by Oral Technic.—Chiray gives the phenoltetraiodophthalein in pills, and states that in sixteen of his twenty-one cases the roentgenograms were as distinct as when it was given by the vein.

Médecine, Paris

7: 165-240 (Dec.) 1925

Hygiene and Infectious Diseases in 1925. L. Tanon.—p. 165.
Kala-Azar in Mediterranean Basin. H. Soulié.—p. 183.
Rôle of Mammalia in Conservation of Viruses. Neveu-Lemaire.—p. 189.
Carbon Monoxide and Food Poisoning. Kohn-Abrest.—p. 192.
The Three-Day Sandfly Fever. Trabaud.—p. 198.
Paramelitensis Fever. L. Nègre.—p. 203.
Ultraviolet Rays in Treatment of Rickets. L. Tixier.—p. 208.
Failures of Meningococcus Antiserum. Cambessédès and Luton.—p. 215.
Bacteriologic Examination of Water. R. Neveu.—p. 221.
*Significance of Eosinophilia. Schmite.—p. 227.
Grave Rectocolitis. E. Antoine. Supplement.—p. 1-48.

Diagnostic Value of Eosinophilia.—Schmite specifies three groups of diseases in which an excess of eosinophils in the blood may aid in diagnosis. In diseases of parasitic origin, especially hydatid cyst and chronic amebiasis, the clinical signs may remain uncertain and the parasite escape detection; eosinophilia may be the only element to suggest the diagnosis. Marked eosinophilia with digestive disturbances may reveal the presence of intestinal worms. It is most pronounced with the hookworm, and is inconstant in leishmaniasis and trypanosomiasis. An increased number of eosinophils is observed in certain blood diseases, especially leukemias. It is important in the myeloid form and is rare in the lymphoid.

In the febrile stage of Hodgkin's disease, an excess of eosinophils in the blood coexists with that in the tissues. Eosinophilia is frequent in skin diseases of erythema or pemphigus type; it is constant in herpetiform dermatitis. A fourth group is represented by cases of intense eosinophilia in which the number of eosinophils surpasses 65 per cent, and the number of leukocytes is normal or increased. The pathogenesis of this eosinophilia is still unknown. Reappearance of eosinophils in the blood indicates a tendency to recovery. According to Markowich and Gueratovitch, eosinophilia is excessive in the mild form of scarlet fever, absent in the grave form. Disappearance of eosinophils in amebiasis and hydatid cyst testifies to a complicating abscess. Differentiation of essential asthma from pseudo-asthma, in heart or kidney disease, may be based on the absence of eosinophilia in the latter. Eosinophilia does not accompany all anaphylactic conditions; it is inconstant in migraine and exceptional in urticaria.

Nourrisson, Paris

14: 1-64 (Jan.) 1926

The Infant Asylum at Montevideo. L. Morquio.—p. 1.
Early Treatment of Congenital Syphilis. H. Lemaire.—p. 18.
*Treatment of Cracked Nipples. P. Chatin.—p. 36.
*Diarrhea in Breast-Fed Infants. L. Bytsch.—p. 40.
Vaccine Dressings for Pyodermatitis in Infants. E. Odier and S. Dreyfus.—p. 44.

Ultraviolet Rays in Treatment of Fissured Nipples.—Chatin applied ultraviolet rays in twelve cases of cracked or fissured nipples. The treatment was given on alternate days. The first exposure was for two minutes, gradually increasing by two minutes up to ten. Pain was sometimes relieved by the first exposure; healing was rapid, and a complete cure occurred within one or two weeks.

Treatment of Primary Diarrhea in Breast-Fed Infants.—Bytsch refers to cases of diarrhea in breast-fed infants, occurring in the first days of life. According to Marfan, the diarrhea may be due to hypersensitization of the intestine to the maternal milk. The affection is not grave, never inducing marasmus. The treatment consisted in the following: Toasted slices of wheat bread were ground and sifted. Two teaspoonfuls of this powder were boiled in 100 Gm. of weak tea, and sweetened with a little sugar or saccharin. Two teaspoonfuls of this gruel were given before each feeding, four or five times a day. Improvement was noted in two or three days. By the second to the fourth day there were no more than three or four stools daily. The infants regained appetite and gained in weight. This method of feeding was sometimes continued until the infant was 3 months old. The breast feeding had never been interrupted.

Presse Médicale, Paris

34: 161-176 (Feb. 6) 1926

*Cholesterol and Uric Acid in Gout. Cluzet et al.—p. 161.
*Case of Periarterial Sympathectomy. J. M. Vilardell.—p. 162.
Discussion on Rheumatism at British Conference. R. Clément.—p. 162.

Cholesterol and Uric Acid in Gout Under Thorium Treatment.—Cluzet, Piéry, Chevallier and Dubost treated successfully a patient with a grave form of articular gout and anemia by inhalations of thorium emanations. Two roentgenograms are given showing the favorable changes in the joints. While the daily elimination of uric acid before the treatment was 0.5 or 0.6 Gm., under the first month of treatment with thorium it reached 1.75 Gm. With a daily intake of 4 liters of fluids, the parallel course of the diuresis and uric acid elimination was evident. Reduction of the liquid intake by 2.5 liters was followed by a severe attack and increase of uric acid in the blood. The content of cholesterol per liter of blood rose from 0.5 to 2 Gm. after the thorium inhalations. The concentration of cholesterol in the blood may be due to the stimulating action of the thorium on tissue activity.

Periarterial Sympathectomy.—Vilardell reports recovery after periarterial sympathectomy in a case of accidental severing of the ulnar nerve. Suture of the nerve had not checked the gangrenous process, with sloughing off of the little finger in two weeks. The ulcer of the stump did not yield to electrotherapy or other methods used for eight months. Removal of the adventitia of the middle third of the brachial artery induced complete healing in twenty-one days. The cure has persisted for two and a half years to date.

34: 177-192 (Feb. 10) 1926

*Pathogenesis of Biliary Colic. M. Chiray and I. Pavel.—p. 177.
Bacteriology and Physical Chemistry. Dujarric de la Rivière.—p. 179.
*Intracardiac Injection of Epinephrine. Garipuy and P. Mériel.—p. 180.
Glucose in Treatment of Gonorrhea. G. Ichok.—p. 181.
Galen's Organotherapy in Psychiatry. R. Van der Elst.—p. 187.

Pathogenesis of Biliary Colic.—Chiray and Pavel assert that a migrating gallstone, foreign body or inflammation of the gallbladder does not induce a biliary colic; they only favor its appearance. Spasmodic contraction of the gallbladder, from excessive stimulation of the vegetative system, is the determining factor of the colic. Among the arguments to sustain this conception of the cause of the paroxysm of pain are the sudden occurrence and disappearance of certain colics under the mere influence of an emotion as, for instance, grief, in the absence of a gallstone or foreign body. Then, the short duration of certain paroxysms, persisting less than an hour, sometimes only a few minutes. An important argument, they say, is also the experimental contraction of the gallbladder with a subsequent painful paroxysm, from injection of magnesium sulphate into the duodenum.

Resuscitation of the New-Born by Intracardiac Injection of Epinephrine.—After the usual attempts to restore respiration had failed, Garipuy and Mériel injected into the heart 1 cc. of 1:1,000 solution of epinephrine in a newly born infant with white asphyxia. Heart beats reappeared as soon as the injection was finished. Artificial respiration and traction of the tongue were continued for fifteen minutes longer, when normal respiration was established permanently. They emphasize that the intracardiac injection should be used by obstetricians as a routine procedure at need, since the method is easy, rapid and highly effectual.

Schweizerische medizinische Wochenschrift, Basel

56: 97-120 (Feb. 6) 1926

*The Principles of Therapy. M. Hausmann.—p. 97.
The Principles of Orthopedics. R. Scherb.—p. 102.
Hypertrophy of the Breasts. A. Wolowelsky.—p. 104.
Cancer Statistics. A. Renaud.—p. 106. C'td.
*The Blood After Roentgen Rays and Tuberculosis. A. Epstein.—p. 111.

The Principles of Therapy.—Hausmann would like to see less use of statistical methods and of fatalistic theories as to heredity in the standpoint of the practitioner. They are valuable only for the present and the past aspect of the disease. The mortality from puerperal fever used to be 10-20 per cent, until Semmelweis saw that this was not necessary. One dies inevitably from a certain disease, until the day comes when one does not have to die from it. The actual happenings differ from the possibilities, and because of the complexity of conditions no single law of nature has a fatalistic power. Medical science warns against what Bleuler calls autistic thinking; medical art requires it to a certain extent.

The Blood After Roentgen Rays and Tuberculosis.—Epstein found that irradiation of a guinea-pig with 1,000 R. units suppressed for twenty days the increase in neutrophils, and later also in lymphocytes, which would otherwise follow an intraperitoneal infection with tubercle bacilli. A dose of 100 R. units enhanced it. No difference in the course of the tuberculosis was noted between such animals and those that had not been irradiated.

Arq. Ind.-Portugu. Med. e Hist. Nat., Nova-Goa

2: 1-202, 1925. Partial Index

Bronchial Spirochetosis. Froilano de Mello.—p. 1.
Intestinal Spirochetosis. B. Pereira Mesquila.—p. 23.
*Alleged Antidotes for Snake Venoms. J. M. Raimundo.—p. 125.

Native Indian Alleged Antidotes for Snake Venoms.—Raimundo has made an exhaustive study of different herbs claimed by the natives to be able to cure snake bites. He experimented with the venom of *Naja tripudians*, after determining the lethal dose for animals. Thirteen plants and herbs were tested and only one displayed any curative action. This was a ginger plant, *Zingiber cosmunar*, and guinea-pigs survived the lethal dose of the snake venom after administration by mouth of 1.5 Gm. of the rhizome in 5 Gm. of water, or death was delayed for several hours.

Brazil-Medico, Rio de Janeiro

2: 311-324 (Nov. 28) 1925

*Hernia as an Industrial Accident. L. Ribeiro.—p. 311.
*The Verumontanum from the Clinical Standpoint. A. Valerio.—p. 313.
*Avoidable Keratitis. E. Campos.—p. 319.

Hernia and Industrial Accidents.—Recent legislation in Brazil on workmen's compensation has raised the question confronting other countries, namely, when can a hernia be regarded as an industrial accident? The Brazilian law requires for accepting this that the accident must be the sole and single cause of the hernia. But the courts have interpreted the law otherwise. In other countries it is the general opinion that of 1,000 cases of hernia, an industrial accident might be incriminated for it in only two or three instances. Ribeiro's experience with sixty-five cases testifies to the same approximate proportion. It is only exceptionally that a hernia can be ascribed to physical injury as it is almost always of slow development, in persons congenitally predisposed to it. The traumatism does not represent the principal cause but merely aggravates the preexisting lesion of which the bearer may not have been aware. Systematic physical examination of all workmen, as is done in military circles, would solve the problem.

Disease of the Verumontanum.—Valerio found evidences of inflammation in seventeen of twenty-six cases and a cyst, polyp or papilloma in the nine others, explaining the disturbances, which had been variously ascribed to the prostate, seminal vesicles or urethra proper. Every one was permanently cured by local treatment, either application of a caustic or the galvanocautery. Posterior urethroscopy is indispensable in all chronic disturbances in this region.

Avoidable Keratitis.—Campos expatiates on the necessity for protecting the cornea when the eyelids gape during long periods of unconsciousness or long sickness. His text is an infant with ulceration of both corneas, exactly corresponding to the ellipse left by the gaping eyelids during the semicomatose phase of prolonged toxicosis. The keratitis might have been prevented by closing the eyelids with a couple of strips of adhesive during the prostration. Infants are especially liable to need this.

Revista Médica del Uruguay, Montevideo

28: 223-248, 1925

*Cardiac Epilepsy. M. P. Abascal and J. M. Cerviño.—p. 223.
*Prolonged Fever of Syphilitic Origin. E. Figari Legrand.—p. 239.

Cardiac Epilepsy.—Abascal and Cerviño apply this term to designate a tendency to epileptic seizures when the circulation in the brain is hampered from pathologic conditions in the heart. A case is described in which the circulatory disturbances seemed to be the sole cause of the epilepsy. In the last few years the man had been having attacks of severe pain in the lumbar region and back of the neck, ascribed to rheumatism. Later, palpitations and dyspnea on exertion incapacitated him almost completely. When a child, he had been kicked in the precordial region by a horse, and the wall of the chest was deformed, the heart much dilated. There were no motor disturbances, but acute edema of the lungs often followed the unconsciousness of the seizure. Under treatment addressed to the heart, the dyspnea subsided. In a second, similar case, there was congenital absence of the right pectoralis muscle. In both the minor manifestations of epilepsy had preceded the manifest heart disease. In the first patient they first appeared after an attack of typhoid.

Protracted Fever of Probably Syphilitic Origin.—A young woman with no appreciable signs or symptoms of congenital syphilis had persistent fever after an attack of what seemed to be influenza. The fever continued for ten weeks, rebellious to all measures, including shock treatment, organotherapy and heliotherapy. The late date of puberty in the patient and one sister was the only feature of the case suggestive of syphilis, but under tentative mercurial treatment the fever was promptly arrested and the general health showed marked improvement. The parents were first cousins.

Revista Médica Veracruzana, Vera Cruz

5: 133-150, 1925. Partial Index

Revindication of Humanized Vaccine. M. S. Yglesias.—p. 133.
*Rupture of the Perineal Urethra. N. L. Melo.—p. 142.

Rupture of the Perineal Urethra.—In the first of the two cases described by Melo, the healthy young man had fallen astride an iron bar and the hematoma that formed was evacuated the third hour after the accident. The posterior stump of the bladder could not be located until after injection of methylene blue. The lesions promptly healed after passage of a grooved sound into the bladder, with a retention catheter. In the other case five days had elapsed after the bullet wound before the patient reached the hospital, and infection was already installed, compelling diversion of the urine. Both patients made a smooth recovery and the urethra of the first patient was normally permeable over three years later.

Revista de la Soc. Arg. de Urol., Buenos Aires

1: 165-188 (Oct.) 1925

*Extraction of Hairpin in Bladder. L. E. Pagliere.—p. 165.
*Roffo Serologic Test for Cancer. A. Astraldi and Rivarola.—p. 169.
Diverticulum of Bladder Treated Surgically. Maraini and Quintana.—p. 176.
Complete Retention with Large Adenoma in the Prostate. B. Maraini and J. N. Dante.—p. 179.

Harmless Extraction of a Hairpin in the Bladder.—Two days after the hairpin had slipped into the bladder, the last of the urine was slightly blood stained, and micturition was frequent. Pagliere gives an illustration of the device with which he then easily extracted the foreign body. After cutting off the tip of a no. 14 catheter, he passed through it a copper wire, bending the tip to form a round hook. The wire was then drawn back until the hook fitted over the tip of the catheter. It was then passed into the cystoscope and introduced into the bladder.

The Importance for Urology of the Roffo Neutral Red Serologic Test.—Astraldi and Rivarola state that the response was constantly positive in their six cases of cancer of the prostate tested, and in the three cases of cancer of the bladder with histologic confirmation. In three of six cases with cystoscopic findings suggesting cancer of the bladder, but not confirmed otherwise, the response was positive in three and negative in three. It was also constantly negative in four cases of adenoma of the prostate and in two of polycystic kidney. As already mentioned in these columns, Roffo adds to 2 cc. of fresh, centrifugalized serum 5 drops of a 5 per cent solution of neutral red. The yellow tint persists with normal serum, but it veers to red with cancer serum.

Revista de la Soc. de Med. Interna, Buenos Aires

1: 501-558 (Oct.) 1925

*Tabetic Vomiting Crises. P. Escudero and J. W. Tobías.—p. 501.
*Cholesteremia and Calcemia in Thyroid Disease. M. R. Castex and M. Schteingart.—p. 514.
Roentgenography of Tumors of the Head of the Pancreas. P. Escudero et al.—p. 526.
*Stomach Function Test. A. Bergman.—p. 534.
*Cholesterol in Treatment of Anemia. Escudero and Puchulu.—p. 545.
Intravenous Medication. G. Aráoz Alfaro and L. Ymaz.—p. 553.

1: 559-592 (Nov.) 1925

Hypertension with Suprarenal Tuberculosis. Castex et al.—p. 560.
Roentgenographic Study of Liver-Bronchus Fistula. Escudero et al.—p. 563.
Basal Metabolism in Exophthalmic Goiter. Castex and Schteingart.—p. 567.
Chronic Diarrhea After Resection of Ulcer of Lesser Curvature. P. Escudero and J. W. Tobías.—p. 574.
Case of Hydatid Cyst of the Kidney. J. A. Etchepareborda.—p. 582.

Tabetic Vomiting Crises.—In the three cases described by Escudero and Tobías, the attacks of vomiting were the only gastric symptoms of the tabes. In one they were preceded sometimes by pains in the spine and lumbar region, and two presented marked asthenia. The clinical manifestations soon confirmed the tabetic origin. Bismuth relieved the attacks of vomiting. In the intervals, the stomach seemed sound, and there were no gastric pains at any time. Tobías has obtained favorable results with radiotherapy in ordinary gastric crises in certain cases.

No Relation Between the Cholesterol and Calcium Content of the Blood in Relation to Thyroid Function or to the Basal Metabolism.—Summarized recently when published elsewhere.

Stomach Function Test.—Bergman gives a test meal of gruel (two tablespoonfuls of oatmeal in 1 liter of water, boiled slowly down to 500 cc.) and immediately afterward injects 5 cc. of a 1 per cent aqueous solution of neutral red into the buttocks. Stomach content is aspirated every fifteen minutes thereafter as long as any is obtainable, continuing the examinations for three hours at least. In his seventy tests of the kind, the neutral red did not pass into the stomach content when the mucosa was gravely diseased.

Cholesterol in Treatment of Anemia.—Escudero and Puchulu relate that a woman with tuberculosis of six years' standing and grave anemia was treated with cholesterol, and gained 11 Kg. and the blood picture returned to practically normal. The leukopenia persisted, testifying to pathologic conditions in the spleen. They state that the erythrocytes had increased from 1,660,000 to 6,000,000 and the hemoglobin from 22 to 80 per cent by the fiftieth injection of 0.2 Gm. of cholesterol, in 5 cc. of olive oil, in ten weeks. The rapid improvement under the cholesterol alone confirmed the favorable reports of others in this line. They review the literature on the action of cholesterol in experimental and clinical experiences.

Deutsche medizinische Wochenschrift, Berlin

52: 179-220 (Jan. 29) 1926

*So-Called Traumatic Neuroses. I. K. Bonhoeffer.—p. 179.
*Idem. II. W. His.—p. 182.
*Sanocrysin. F. Klemperer.—p. 186.
Necrotizing Brain Syphilis. H. Herschmann.—p. 192.
Treatment of Pyodermias. K. Zieler.—p. 193.
Organotherapy in Dermatology. E. Pulay.—p. 195.
Bases for Ointments. P. Unna, Jr.—p. 197.
Treatment of Chilblains. H. Hübner.—p. 200.
Syphilis Infection of Wife. H. Hübner.—p. 200.
Vital Statistics in Prussia. Solbrig.—p. 201.
Expert Testimony in Insurance Cases. P. Horn.—p. 202.
Dentists and Dental Technicians. Walkhoff.—p. 203.
Unification of School Physicians' Records. A. Braun.—p. 204.
The Colitis Question. O. David.—p. 217.

So-Called Traumatic Neuroses.—Bonhoeffer regrets that the practical consequences have not kept pace with the development of scientific knowledge on the so-called traumatic neuroses. The symptoms following real concussion of the brain resemble Korsakoff's syndrome, or they consist of a more or less pronounced amnesia, or convulsions, or disturbances of tolerance for alcohol and periodic depressive states. They can be easily distinguished from the purely functional troubles. Fright may produce a vasomotor complex, but only for a short period, unless there is the wish to draw advantages from it. Traumatic hysteria is not a disease, but only a psychologic reaction which occurs only with certain wishes and disappears if they are given up. The complaisant or ignorant physician injures not only the state or the insurance company, but also the victim of the trauma, who keeps his symptoms as long as he can hope for compensation. Hospitals for soldiers with traumatic neuroses were required for their own soldiers, never for the millions of prisoners of war who knew that they were out of danger. He agrees with Hauptmann's opinion that no compensation should be allowed in "compensation hysteria." His points out that experience on the causal relation between liability legislation and traumatic hysteria is old, as well as the knowledge that such subjects recover after getting an indemnity. As long ago as 1894, Ricolins spoke of "gold treatment which can be made with bank notes." The diagnosis is quite safe, only injuries of the head require special attention. As long as the law grants an indemnity, a single payment is preferable to doling out the sum, which only prolongs the symptoms. He is against any compensation where the wish factor is predominant. In mixed cases he agrees with the findings of the Swiss conference to the effect that if the symptoms are such that they would not occur in a noninsured person, the claim should be rejected.

Sanocrysin.—Klemperer has treated forty-two patients suffering from pulmonary tuberculosis with sanocrysin for a whole year. He concludes that the antiserum only aggravates the sanocrysin poisoning. Doses of 0.5 and 1 Gm. to begin with are harmful. Doses of 0.1 and 0.25 Gm., slowly increasing to 0.5-1, are not injurious. The treatment is useful in some cases, useless in an equal number of others, but it is impossible to predict which action will occur. A debate on this paper is also reported.

Klinische Wochenschrift, Berlin

5: 89-128 (Jan. 15) 1926

Histopathologic Research on Nervous System. W. Spielmeyer.—p. 89.
*Water Metabolism. H. Marx.—p. 92.
*Avitaminosis and Fractures. A. Israel and R. Fränkel.—p. 94.
*Roentgen Rays and Micro-Organisms. E. Schneider.—p. 97.
Cancer Metastases in Skin. K. Dürbeck.—p. 99.
Protein Therapy of Peptic Ulcer. F. Rothschild.—p. 102.
*Reaction of Infusion Fluid. G. Endres.—p. 104.
*Nuclei of Leukocytes in Syphilis. R. Lemke and W. Streblow.—p. 106.
Kahn's Cancer Test. P. Skwirsky and V. Striedter.—p. 109.
"Specific Dynamic Action." H. Pollitzer.—p. 109.
"Ovarian Hormone." M. Kochmann.—p. 110.
*Blood Volume with Splenomegaly. E. Greppi.—p. 110.
Variability of Corynebacteria. M. Gundel.—p. 111.
Genital and Peritoneal Tuberculosis. W. Benthin.—p. 111.
Bill on Illegitimate Children. Nippe.—p. 116.

Water Metabolism.—Marx gave the suggestion of drinking to hypnotized subjects. They reacted by polyuria with a low specific gravity of the urine, and dilution of the blood, followed by inspissation. These experiments throw light on the theory of polyuria and polydypsia and their psychic origin.

Avitaminosis and Healing of Fractures.—Israel and Fränkel found that fractures in guinea-pigs do not heal if the animals are kept on a diet free from vitamin C. A mere restriction of the vitamin, which is sufficient to retard the growth of the animal, does not impair the formation of callus. They observed a fracture of the callus in one animal put on the vitamin free diet after the healing had become evident. The incentive to this work was given by Bier who found analogous observations on the reopening of ulcers and fractures in sailors, quoted in Sir Astley Cooper's lectures, which are 100 years old.

Roentgen Rays and Micro-Organisms.—Schneider irradiated yeast with roentgen rays. The yeast lost about 10 per cent of its fermentative activity if irradiated during fermentation and in the presence of electrolytes. Otherwise he confirmed the resistance of unicellular organisms to the roentgen rays. Even photosensitization with eosin made no difference in yeast. He explains the resistance of micro-organisms by their relative independence from the medium, which is the main point of action of the roentgen rays.

Reaction of Infusion Fluid.—Endres confirms the increased acidity of the blood after hemorrhage. In spite of this, an alkaline injection fluid is contraindicated because it would inhibit the dissociation of oxyhemoglobin. The increased acidity promotes this after the hemorrhage in a similar way as in high altitudes. The ideal injection fluid would be slightly acid, he thinks.

Nuclei of Leukocytes in Syphilis.—Lemke and Streblow confirm the presence of changes of the nuclei of leukocytes and lymphocytes described by Antoni in syphilis. In an arrangement excluding completely self-suggestion, they made a correct diagnosis in 90 per cent of the cases. Other diseases —especially anemia—may give pictures which resemble the typical ones, but a coincidence of weak staining of nuclei, irregular outlines, and formation of Antoni's canals is practically pathognomonic of syphilis.

Blood Volume with Splenomegaly.—Greppi found with the congo red method very high figures for the blood volume in three cases of leukemia, and only a little less in three cases of splenomegaly of other origin. He believes that the method is unreliable in such conditions probably because of a rapid absorption of the dye by the spleen.

Medizinische Klinik, Berlin

22: 159-198 (Jan. 29) 1926

*Syphilis and Interruption of Pregnancy. A. Buschke and M. Gumpert. —p. 159.
Psychotherapy in Urology. J. J. Stutzin.—p. 163.
Large Blood Transfusions. A. Plehn.—p. 166.

Protein Restriction in Diabetes. L. R. Grote.—p. 167.
Deodorization of Cancer. L. Freund.—p. 170.
Tumors of Brain and Cord. H. Alfes and K. Eggert.—p. 171.
Disease of Temporal Bone. Charousek.—p. 174. C'cn.
Tuberculosis and Accident Insurance. E. Suess.—p. 176. C'cn.
Lipase in Tuberculosis. F. Rosowsky.—p. 178.
Liver Atrophy and Trauma. W. Stoeckenius.—p. 179.
Electrophysical Treatment. B. Berliner et al.—p. 182.
American Research on Scarlet Fever. F. Szirmai.—p. 183.
*Moral Aspects of Abortion and Birth Control. K. Vogtherr.—p. 195.
The Lymphatic Organs. L. Aschoff. Supplement.—pp. 1-22.

Syphilis and Interruption of Pregnancy.—Buschke and Gumpert have collected statistics on the grave outlook for children with congenital syphilis. They recommend consideration of abortion if the life of the mother is in danger, or if regular and intensive treatment of the syphilis during pregnancy is impossible, or if there are cases of neurosyphilis in the family, and if its financial distress is great.

Moral Aspects of Abortion and Birth Control.—Vogtherr analyzes the moral point of view in respect to birth control and interruption of the pregnancy in the first months. He sees only two possible consistent attitudes: the one which condemns morally both birth control and abortion, except in serious danger for the mother; and the other which approves of both methods of "rationalization of human procreation." A physician who refuses indignantly (instead of by simply referring to the law) to perform an abortion, but who does not hesitate to give his advice on how to prevent conception, is not a logical thinker, or else he is a hypocrite.

Wiener klinische Wochenschrift, Vienna

39: 121-148 (Jan. 28) 1926

Tumors of the Spinal Cord. K. Grosz.—p. 121. C'td.
Inflammation and Diseases. A. Theilhaber.—p. 125.
Female Axillary Organ. J. Klaar.—p. 127.
*Gwathmey's Analgesia. J. Schiffmann and W. Seyfert.—p. 131.
*Lipiodol Injury in Tuberculosis. O. Lichtwitz.—p. 133.
The First Ether Anesthesia. M. Hirsch.—p. 134.
Lamp for Inspection of the Vagina. P. Beck.—p. 135.
Serology and Treatment of Syphilis. G. Scherber.—p. 135.
Diagnosis and Treatment of Syphilis. Ullmann. Supplement.—pp. 1-20.

Gwathmey's Obstetric Analgesia.—Schiffmann and Seyfert had excellent results with Gwathmey's analgesia. They believe that the method is capable of further development. It must not be started too early.

Lipiodol Injury in Tuberculosis.—Lichtwitz made an intratracheal injection of 4 cc. of lipiodol for the purpose of bronchography in a tuberculous young woman. The temperature rose on the same evening and the tuberculosis became rapidly progressive.

Zentralblatt für Chirurgie, Leipzig

53: 257-320 (Jan. 30) 1926

*Subperiosteal Fractures. E. Müller.—p. 258.
*Parathyroid Tumor with Fibrous Osteitis. F. Mandl.—p. 260.
Vaso-Orchidostomy. J. J. Stutzin.—p. 264.
Pseudorecurrences After Cholecystectomy. H. Rummel.—p. 266.
*Perforation of Syphilitic Ulcers of the Intestine. Wahlberg.—p. 274.
Dehiscence After Laparotomy. M. Weber.—p. 277.
Mutilation of the Penis. J. Steinberg.—p. 279.
Treatment of Coxitis. B. Chatzkelsohn.—p. 280.

Subperiosteal Fractures.—Müller has observed fourteen cases of subperiosteal fracture—mostly in adolescents—which were irreducible except by surgical intervention. The abnormal motility was present, but not the crepitation. The periosteum camouflages the gravity of the dislocation of the fragments.

Parathyroid Tumor with Fibrous Osteitis.—Mandl's patient was suffering from a grave fibrous osteitis—especially of the legs. Large amounts of lime were eliminated by the urine. Mandl decided to look for the possibility of a parathyroid tumor, and found it. The patient improved considerably after extirpation of the tumor.

Perforation of Syphilitic Ulcers in the Intestine.—Wahlberg's patient died from peritonitis following multiple perforation of syphilitic ulcers of the small intestine. The history (four healthy children) and the serum test had given no diagnostic hints.

Zentralblatt für Gynäkologie, Leipzig

50: 257-320 (Jan. 30) 1926

*Nodes and Cysts on Tube. J. Schiffmann and H. Steiner.—p. 258.
Symphyseoventrifixation of the Uterus. E. Solms.—p. 263.
Gynecologic Psychotherapy. B. Liegner.—p. 274.
*Colostrum Secretion and Gynecologic Diseases. L. Ballin.—p. 278.
*Local Autohemotherapy of Mastitis. V. Rubeška.—p. 284.
Polymastia and Polythelia. L. Theodor.—p. 286.
"An Ovarian Hormone." S. Loewe.—p. 289.
*Epinephrine and Pregnancy Vagotonia. B. Varó.—p. 291.
Serum Proteins After Operations. K. Burger.—p. 294.

Nodes and Cysts on Tubes.—Schiffmann and Steiner conclude that the small nodes and cysts localized on the fallopian tubes are only normal formations, due perhaps to a local peculiarity of the peritoneum.

Colostrum Secretion and Gynecologic Disease.—Ballin does not consider colostrum as a sign of pregnancy up to the fifth month. Women who have been pregnant, and especially those who have nursed for a long period, may have colostrum for years. Ovarian changes, especially cancer, and the menopause may cause secretion of colostrum.

Local Autohemotherapy of Mastitis.—Rubeška prefers to inject 40-60 cc. of the patient's blood into the thigh. The injection has to be made early, and be repeated the next day if the temperature is not normal.

Epinephrine and Pregnancy.—Varó observed no increase of the agglutination titer against typhoid bacilli after injection of epinephrine in nine pregnant women. He confirms the increase observed by Borchardt in normal subjects, but it was absent in nonpregnant vagotonic women.

Journal Exp. Biologii i Mediziny, Moscow

1: 1-152, 1925. Partial Index

*Mechanism of Immunity in Tuberculosis. V. Lubarsky et al.—p. 3.
Phenomena of Isohemagglutination. Skadovsky and Schräder.—p. 25.
*Mental Abilities of Rats. Sadovnikova-Koltzova.—p. 40.
*Peroxidase Function of Oxyhemoglobin. Bakh and Kultiugin.—p. 60.
Antigen Property of Hemoglobin. V. Engelhardt.—p. 83.
*Experimental Avitaminosis. L. Tcherkes.—p. 97.
Protein Waste Taken Up by Erythrocytes. B. Zbarsky.—p. 121.

Mechanism of Immunity in Tuberculosis.—Lubarsky and his co-workers inoculated rats, mice and guinea-pigs with tubercle bacilli. No bacteriolysis or lipolysis was observed in the organism thus immunized against tuberculosis. The immunity seemed to be of a cellular character. Fixation of tubercle bacilli occurs as a process to render them harmless, isolating them in the immunized organism, and thus producing the tubercle. Tubercle bacilli are eliminated by way of the bile and intestine. The mechanism of the immunity realized seemed to be the same with virulent, and slightly virulent bacilli and with acid-resisting saprophytes.

Mental Abilities of Rats.—Sadovnikova-Koltzova's tests were made on 123 rats. No difference was noted between the mental ability of the males and females, but there was a manifest correlation between the mental equipment of the parents and their offspring; and also between animals of the same litter. The teaching of parents did not influence the abilities of the offspring. In the mental ability of the rats a group of three genes seemed to be involved, a gene of general activity, a gene of fear, and one of a seeking instinct.

Peroxidase Function of Oxyhemoglobin.—Bakh and Kultiugin consider oxyhemoglobin a peroxidase ferment. It is a biological catalyzer, produced by the living cell. Its ferment nature cannot be denied on account of its resistance to heat. Bakh obtained a perfect peroxidase from horseradish by ultrafiltration, still active after prolonged heating. The catalyzer property in oxyhemoglobin seemed to resist the action of acids better than in vegetable peroxidase. The data presented demonstrate that there is no evidence against accepting oxyhemoglobin as a peroxidatic enzyme.

Experimental Avitaminosis in Pigeons.—Tcherkes induced symptoms of vitamin B deficiency in pigeons deprived entirely of vitamins. An increased intake of fat did not influence the avitaminosis B on an exclusive fat diet, but the avitaminosis B process became accelerated in the presence of protein and carbohydrates. The lack of vitamin B induced first disturbances of carbohydrate and protein metabolism; then of fat metabolism.

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THE TREATMENT OF FUNCTIONAL UTERINE HEMORRHAGE *

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In the great majority of cases of uterine hemorrhage, the indication for treatment is perfectly clear. A definite anatomic lesion can be demonstrated in one of the pelvic organs, and the removal of such a lesion is the sine qua non for the cure of the abnormal bleeding. For example, the most common of all causes of persistent uterine hemorrhage is incomplete miscarriage, and the spontaneous or operative removal of the retained gestation products is followed by a cessation of the bleeding. In the same way, bleeding due to pelvic neoplasm or to pelvic inflammatory disease necessitates removal of the lesion.

In a much smaller but still not inconsiderable group of cases, however, uterine bleeding may be observed in the entire absence of any demonstrable gross lesions of the pelvic organs. Indeed, extremely profuse hemorrhage may occasionally be observed in children at or near the age of puberty. Far more frequently such bleeding is noted in women at or near the menopausal age, although no period of reproductive life is immune from this possibility. Cases of this type are commonly designated as "functional," "idiopathic" or "essential." The hemorrhages are occasionally mild, and may tend toward spontaneous correction. More frequently, they are sufficiently severe to lead the patient to seek medical advice, and not infrequently they are quite alarming, causing grave concern to both patient and medical attendant. In those cases which occur at or near the climacteric, it can at once be seen why this should be so, for free bleeding at this period brings with it the apprehension of cancer. The diagnostic conflict between climacteric bleeding of functional nature and that due to cancer is thus very frequent, and this fact alone is sufficient to warrant consideration of the less dangerous though less well understood of these two causes of bleeding.

In previous papers,[1] attention has been called to the clinical characteristics of this form of abnormal uterine hemorrhage, and especial stress has been laid on the fact that in by far the largest number of cases, the uterine mucosa yielded by curetting presents a very characteristic picture. This was originally described by Cullen and designated as hyperplasia of the endometrium.[2] I shall not describe the condition in detail here, except to say that it is characterized by a genuine increase in both stromal and epithelial elements, and that perhaps the chief distinguishing feature is a marked disparity of the glands, many of which are large and cystic, while others are quite small. There is thus produced a very characteristic Swiss-cheese pattern, often so marked that a glance through the microscope is sufficient to make the diagnosis. Grossly, the endometrium in some cases is so enormously overgrown that huge quantities are brought away by the curet, and in older women may give rise to a snap diagnosis of malignancy, unless one is accustomed to the naked eye diagnosis of tissue material. Usually, in such cases the mucosa is distinctly polypoid, constituting the condition that has so often in the past been wrongly designated as "polypoid endometritis." Most frequently the endometrial overgrowth is only moderate, and it may be absent altogether.

Certain ovarian lesions have been described as characteristic accompaniments of this endometrial condition, especially an absence of corpora lutea and an increase in the process of follicular maturation and atresia. There is some question as yet as to the invariability of these findings, but they certainly constitute the common ovarian picture in cases of this group. The fact that bleeding of this type occurs only in the reproductive period of the woman's life, that it so commonly recurs after curetting, that it is curable always by removal of the ovaries or by radiotherapy—these and a number of other considerations make it almost certain that the causation is to be sought in an endocrinopathy of some sort. Whether or not this is to be classed as a hypergonadism (hyperoophorism), or just what the real disturbance is, cannot of course as yet be stated.

In a rather large experience with this form of uterine bleeding, from both the clinical and pathologic standpoints, I have been impressed with the fact that the profession as a whole and, indeed, gynecologists as a group, have not yet come to appreciate the real nature and significance of this form of menstrual disturbance, as well as its great importance from the standpoint of differential diagnosis. Too often a diagnosis of "idiopathic" hemorrhage is made without proper measures to exclude the possibility of other and often far more serious lesions, such as cancer. Even when the diagnosis is correct, many practitioners prescribe ergot, stypticin or other drugs of this sort, without any real pharmacodynamic justification. Ergot, for example, is an excellent remedy in cases of uterine hemorrhage due to relaxation or insufficiency of the uterine musculature. It probably has no hemostatic virtue in other forms of hemorrhage, such as those due to a biochemi-

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* Read before the Atlantic County Medical Society, Atlantic City, N. J., Jan. 8, 1926.

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[1] Novak, Emil: Relation of Hyperplasia of Endometrium to So-Called Functional Uterine Bleeding, J. A. M. A. **75**: 292 (July 31) 1920. Novak, Emil; and Martzloff, K. H.: Am. J. Obst. & Gynec. **8**: 385 (Oct.) 1924.

[2] Cullen: Adenomyoma of Uterus, 1908, p. 180; Canad. M. A. J. **3**: 658, 1913.

cal or endocrine disturbance. This is not to say that any brilliantly effective medication can be suggested in the group of cases I am describing. My object is rather to outline what I take to be an intelligent plan of management. Unfortunately, it will be seen that from the standpoint of mere medication, the measures recommended below often give results no less disappointing than those obtained from the drugs criticized above, although the rationale of their employment would seem reasonably clear.

METHODS OF TREATMENT

Spontaneous Cure of Mild Cases.—Any one who has taken a large number of menstrual histories will recall the occasional statement that the menstrual periods were very profuse and perhaps irregular for the first year or two after inauguration of the function, but that later the trouble had apparently adjusted itself and the periods had become regular in occurrence and normal in amount. In the same way, it is probable that a certain proportion of cases of moderate "flooding" at the menopausal era, which spontaneously correct themselves, are of this type. It is scarcely necessary to urge that women should not be encouraged to hope for such a happy consummation, and that we should continue our present teaching that no other diagnosis should be entertained until that of malignancy has been excluded.

Diagnostic Curettage.—When the bleeding is sufficiently severe to cause concern in young women, and even more emphatically during middle age, the importance of diagnostic curettage cannot be too strongly urged. In no other way can the nature of the trouble be established. Especially distinctive is the finding of hyperplasia of the endometrium. It is only fair to say that, in a small proportion of cases, this diagnostic finding will fail us; but it is so common that a failure to demonstrate hyperplasia should at least lead to a suspicion of some unsuspected anatomic lesion, such as a submucous myoma or an intra-uterine polyp. Even making such an allowance, however, it appears probable that in a small proportion of cases the endometrium may be perfectly normal. Perhaps the nature of the endocrinopathy has something to do with these variations.

Only by diagnostic curettage can one exclude the existence of adenocarcinoma of the corpus. The far more common type of uterine cancer, i. e., squamous cell carcinoma of the cervix, can usually be readily diagnosed by inspection and palpation, with microscopic examination of biopsy sections in doubtful cases. In cases of bleeding in middle-aged women who are still menstruating, when diagnostic curettage is indicated because of the absence of more obvious causes of the hemorrhage, the benign hyperplasia will be found considerably more often than adenocarcinoma. The latter is much more apt to be noted in women who have passed the menopause.

In most cases, curettage will be followed by relief from the hemorrhage. In many cases this will be permanent, but in a large proportion, certainly in not less than one half, recurrence of the symptoms will be noted, perhaps almost immediately, though in other cases not until many months later. In some cases, the success of a curettage may merely reflect a coincident spontaneous curative tendency; in others, it may perhaps be interpreted as in some way altering the biochemical condition of the endometrium.

Organotherapy.—One hesitates to elaborate on this subject, because the results can scarcely provoke any great degree of enthusiasm. Often, however, they are distinctly gratifying, and certainly organotherapy is far more rational than drug medication. There is much reason to believe that the nature of the endocrinopathy differs in different cases. For example, thyroid extract is usually ineffective, but may occasionally give very striking results. In a girl of 12, on whom I performed a curettage for severe bleeding of three months' duration, which soon recurred, the administration of thyroid extract was followed by prompt cessation of the bleeding. When there are other manifestations of hypothyroidism, thyroid extract should by all means be resorted to, and will often be of great benefit.

In view of the common absence of corpora lutea in the ovaries in these cases, it is not surprising that corpus luteum preparations of one form or another have been advocated in this condition. Suffice it to say that the results have been no more satisfactory here than with ovarian therapy in general.[3] The results of mouth administration are notoriously disappointing, and no very potent extract for subcutaneous or intramuscular administration seems as yet available.

Posterior pituitary extract has also been employed in the treatment of this symptom, and in my own hands has yielded better results than any other form of organotherapy. Daily injections of the pituitary extract (1 cc.) may be given for at least six days, by which time beneficial results should have been noted if they are to occur. It is of course difficult to be sure, when improvement occurs, that it is not due to the action of the extract on the uterine muscle, rather than to any more specific endocrine mechanism.

Repeated Curettage in Recurrent Cases in Young Women.—When, as so commonly occurs, the bleeding returns, even after thorough curettage, the question as to the next step presents itself. In young women, in whom future childbearing is an important consideration, it is not always an easy one to settle. The remarkable development of radiotherapeutic technic in the last few years will impel some to urge these measures without further ado. It is probably true that, as a rule, careful radiotherapy by the expert will relieve the symptom without any unfortunate by-effects. There still seems, however, to be some uncertainty on such points as idiosyncrasy and possible later results on the ova, so that not a few gynecologists hesitate to resort to radiotherapy in young women, unless all other measures fail. A repetition of the curettage, perhaps several times, as the bleeding may demand, is preferred by some, tiding the patient over until the endocrine balance is restored. My own feeling is that, whenever possible, the patient or her family should be taken into our confidence, and the situation presented as fairly as possible. When this is done, my own experience has been that with most young patients, especially when the hemorrhage is not extremely profuse, the selection will be a repetition of curettage, with the slight attendant risk and inconvenience rather than even the slight uncertainty of radium therapy. There are, of course, certain social and economic factors which at times play an important part in arriving at a decision.

Radiotherapy, Especially in Patients at the Menopausal Age.—In women who have lived their reproductive lives, and in whom the matter of further child-bearing need not be considered or, at any rate, is distinctly subordinate to that of health, the indication is clear for radiotherapy. Here, indeed, we have the almost ideal indication for radium in gynecology, for menstruation can be checked promptly and with certainty. The methods, dosage and mechanism of this procedure need not be discussed in this paper.

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[3] Novak, Emil: Endocrinology 6: 591 (Sept.) 1922.

Hysterectomy at Menopause Under Certain Conditions.—In uncomplicated cases, there would seem to be no reason for hysterectomy where radiotherapy is available, as it now is almost universally. In cases, however, in which there is some associated lesion indicating laparotomy, hysterectomy is a perfectly justifiable and, of course, an effective procedure, as far as cure of the bleeding is concerned.

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SURGERY IN THE PRESENCE OF DIABETES *

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Two years ago,[1] we reported a low mortality rate following a series of operations on patients with diabetes. After two more years' experience in this type of work, we are now reporting the combined results of four years of effort to minimize the mortality rate in such cases. Between Oct. 1, 1921, and Oct. 1, 1925, 667 operations were performed on 497 patients; 363 of the operations were of a minor type, and 304 of a major type (tables 1 and 2). In the first group, two deaths occurred; in the second, eighteen. During the last three years in the Mayo Clinic, operations have been performed, regardless of the presence of diabetes, on the assumption that the diabetes itself, if properly controlled, would not increase the risk of operation. For three years, therefore, no patient has been refused necessary surgical procedures because of diabetes.

TABLE 1.—*Major Operations*

Thyroidectomy*	59
Cholecystectomy*	40
Appendectomy*	27
Removal of adnexa (female)	19
Herniotomy (ventral and inguinal)*	16
Major amputation*	15
Cholecystostomy*	13
Prostatectomy†	13
Removal of cataract	13
Colostomy‡	12
Nephrectomy	9
Amputation of breast*	7
Posterior gastro-enterostomy	6
Cystotomy	6
Exploration	6
Choledochostomy	4
Partial gastrectomy*	2
Mayo operation for prolapse	2
Partial resection of bladder	2
Mikulicz operation	2
Drainage of perinephritic abscess*	2
Excision of thyroglossal duct	1
Left cervical sympathectomy	1
Drainage of appendical abscess	1
Colocolostomy*	1
Closure of colostomy	1
Finney pyloroplasty*	1
Cordotomy	1
Excision of mass in axilla	1
Excision of sensory root of gasserian ganglion*	1
Posterior resection of anal canal	1
Fixation of uterus	1
Shortening of round ligaments	1
Cholecystogastrostomy*	1
Knife excision of gastrojejunal ulcer	1
Block dissection of glands of neck	1
Complete mastoidectomy	1
End-to-end anastomosis	1
Cautery excision of ulcer	1
Excision of diverticulum of bladder	1
Knife excision of ulcer	1
Ureterolithotomy	1
Excision of fascia of both submaxillary regions	1
Thoracoplasty	1
Drainage of pancreatic cyst	1
Removal of cyst of omentum	1
Radical dissection of both [illegible]	1
[illegible]	1
[illegible] right eye	1
Enucleation of right eye	1

* One operative death.
† Two operative deaths.
‡ Three operative deaths.

In every case there was frank diabetes, but in the majority of cases it was mild. One hundred and eighty-one operations were performed in cases of moderately severe diabetes, and in eighty-two showing a severe form (table 3). According to one classification,[2] 119 cases were of the acute progressive type. In 158 cases the diabetes was associated with vascular lesions, in ninety-one with cholecystitis and pancreatitis, and in 199 with obesity. Fatalities occurred in about the same proportion in all these groups (tables 4 and 5). None of the deaths were directly attributable to diabetes. In only a few cases was there postoperative acidosis. In six cases carcinoma was the chief or contributing cause of death; pneumonia was the contributing cause in eight cases, and septicemia in three.

TABLE 2.—*Minor Operations*

Alveolotomy	131
Tonsillectomy*	86
Dilation and curettage	11
Perineorrhaphy	8
Excision of	
[illegible]	7
[illegible]	5
[illegible]	4
[illegible]	3
Cyst of cheek	2
Lacrimal sac	2
Nasal polyps	2
Subdermal fibrosis	1
Carcinomatous implant	1
Keratosis	1
Callous area	1
Mucous fold	1
Calcaneal spurs	1
Cyst of breast	1
Hernia	1
Parotid tumor	1
Postanal dermoid	1
Fibrolipoma of forehead	1
Carbuncle	1
Segment of rib	1
Fistulous tract	1
Anterior lip of cervix	1
Drainage of	
Abscess of leg	3
Abscess of chest (empyema)	2
Abscess of foot	1
Abscess of arm	1
Abscess of perineum	1
Abscess of chest wall	1
Amputation of toes*	9
Biopsy	6
Circumcision	5
Drainage of submaxillary sinus	4
Aspiration of chest	4
Fistulectomy	3
Fissure in ano	3
Ligation and stripping of varicose veins	2
Amputation of cervix	2
Alcohol injection of nerve	2
[illegible]	2
[illegible]	2
[illegible]	2
[illegible]	2
[illegible]	2
Transplantation pterygium	2
Curettement of bone sinus	1
Removal of granulation tissue	1
Drainage of phlegmon of lower jaw	1
Manipulation of shoulder	1
Removal of specimen from trachea	1
Repair of vesicovaginal fistula	1
Sic operation for hydrocele	1
Cautery and excision of scarred area	1
Skin graft	1
Repair of cystocele	1
Removal of detritus from aural canal	1
Trachelorrhaphy	1
Cauterization of mucous cyst	1
Exploration of humerus for osteomyelitis	1
Trephine for glaucoma	1
Cautery excision of papilloma of rectum	1
Orchidectomy	1
Removal of great toe nail	1
Removal of sequestrum of great toe	1
Removal of bunion	1
Removal of nerve of supra-orbital region	1
Plastic operation on sphincter	1
Removal of fibroma of abdominal wall	1
Repair of Dupuytren's contraction	1
Artificial pneumothorax	1

* One operative death.

TABLE 3.—*Cases According to Classification of Diabetes*

Diabetes	Major Operations	Minor Operations
Mild	207	197
Moderate	77	104
Severe	20	62
Total	304	363
Acute	15	104
Obese	89	110
Vascular	69	89
Doubtful	63	29
Interstitial	68	31
Total	304	363

The extremely low operative risk attending major operations on patients with diabetes reported for the two years 1922 and 1923 was not maintained during the next two years. This is probably largely a matter of chance, the averages for the four years representing more truly the surgical risk of such patients. The averages are considerably higher than those reported by the surgical staff of the clinic for operations in general, but low compared to the mortality rate of operations on patients with diabetes reported from other surgical clinics with wide experience. Undoubtedly, fewer cases of acute infections are seen in the Mayo Clinic than are seen in hospitals in larger cities. For example, in Bauman's[3] recent report, thirty-three patients required emergency surgical measures, while in our series there were only six. The surgical procedures in our series were, on the whole, as severe as those reported by other observers (table 1). It is significant also that the mortality rate was as high in the group of mild cases as in the severe.

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* From the Divisions of Medicine and of Surgery, Mayo Clinic.

[1] Adams, S. F., and Wilder, R. M.: Surgical Risk of Diabetic Patients, Surg. Clin. N. America 4: 587-593 (April) 1924; The Present Status of the Diabetic Patient as a Surgical Risk, Wisconsin M. J. 22: 557-561 (May) 1924.

[2] Wilder, R. M.: Types of Diabetes Mellitus, M. Clin. N. America 5: 455-467 (Sept.) 1921.

Although modern methods of the treatment of diabetes eliminate the danger of acidosis and reduce considerably the susceptibility of the patient to infection, it is still possible that diabetes contributes to death in ways that we now have no means of measuring. As a rule, patients with diabetes who require operation are advanced in years. The youngest patient to die in our series was aged 51. The average age of all having major operations was 54 years. The average of those having minor operations was 47 years. Patients of this age with diabetes usually suffer from extensive degenerative lesions. Many of them have severe arteriosclerosis and many have coronary sclerosis and myocardial degeneration.[4] All of these factors add to the risk of operation, and it is unlikely that under the most favorable circumstances the surgical death rate in this group can ever be brought as low as that of any group of younger patients with fewer degenerative complications.

Table 4.—*Fatal Cases According to Classification of Diabetes*

Diabetes	Major Operations	Minor Operations
Mild	13	2
Moderate	4	..
Severe	1	..
Total	18	2
Acute	..	..
Vascular	4	1
Obese	9	1
Doubtful	2	..
Interstitial	3	..
Total	18	2

Major amputations for gangrene of the extremities were performed in fifteen cases and resulted fatally in one case. The healing of the amputated stumps was very satisfactory. In order to insure a good blood supply to the stump, the amputation was high, and the blood sugar was maintained at approximately normal levels by the frequent injection of insulin.

In cases of gangrene limited to the toes, of the dry and nonadvancing type, two courses are open. The safest is amputation of the foot, but often the foot can be saved and the toe alone sacrificed. This offers a reasonable chance of conserving use of the foot and securing fairly rapid healing. The second course is medical treatment alone, which includes rest, stimulation of circulation, and the maintenance of the blood sugar at a low level by frequent injections of insulin. Exclusive medical management necessitates a long period of careful nursing and may be unsuccessful in the end. The decision as to which of these procedures is desirable in a given case will be influenced by the extent of the gangrene, the degree of obstruction of the blood vessels supplying the foot, the severity of the diabetes, and the economic condition of the patient. In a number of recent cases, we have observed somewhat better results in the healing of chronic ulcers and gangrenous areas following the direct application of insulin to the wound.

Three of twelve patients who were operated on for carcinoma of the rectosigmoid or descending colon died. Death was attributed to poor healing of the bowel at the point of anastomosis, leakage, and resulting peritonitis. The surgical risk in this type of operation is high under the most favorable circumstances, and the complication of diabetes with its attending arteriosclerosis is unquestionably extremely grave. The blood supply to the descending colon and sigmoid is always poor and, in cases of extensive arteriosclerosis, it is probably so poor that healing of the bowel is delayed and leakage inevitable. We can, we believe, reduce the risk in these cases by using more freely the multiple-stage operation and also by employing more free drainage of the wound at the time the resection is made.

FACTORS REDUCING MORTALITY

Methods of Treatment.—Several years ago, the plan was adopted at the clinic of placing all patients with diabetes, both surgical and medical, under one service in the hospital, and this has probably contributed largely to the lowering of the mortality rate following surgical operations. Patients are treated both before and after operation. The cooperation of the surgeon in postoperative management is obtained in the medical ward. There is no opportunity for the interruption of the precise diet and accurate administration of insulin that should precede and follow operation, and difficulties arising from a division of responsibility that were encountered before this plan was adopted are eliminated.

Purely surgical problems are left to the surgical staff for decision. These include, for example, the selection of the anesthetic. Ether has been the choice in a number of such cases,[5] and the mortality rate has not been greater than that with other anesthetics. From a medical point of view, ether is not a desirable anesthetic in cases of diabetes, but, as Fitz[6] has pointed out, the amount of ether used in individual cases in the Mayo Clinic is relatively small, and in certain cases the advantages to be gained from satisfactory anesthesia outweigh the danger of the anesthetic, as, for example, when the patient's complete relaxation permits a more rapid operation and thus lessens the severity of shock. Ethylene has been employed in many such cases, but thus far our experience has not been sufficient to conclude that it is any less dangerous than ether. Local anesthesia is obviously the most desirable, other things being equal. An unnecessary prolongation of an operation is extremely detrimental and is to be avoided.

Preoperative Treatment.—As Foster[7] has said, every patient with diabetes who is operated on should be regarded as a candidate for coma, and its prevention is better than the cure. Our practice is to prescribe a

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[3] Bauman, Louis: Diabetes in Surgical Patients with Especial Reference to Insulin, Surg., Gynec. & Obst. **41**: 272-283 (Sept.) 1925.

[4] Wilder, R. M.: Necropsy Findings in Diabetes, South. M. J., to be published.

[5] Berkman, D. M.: The Diabetic Patient as a Surgical Risk, Collected Papers of the Mayo Clinic, Philadelphia, W. B. Saunders Company **13**: 1177-1181, 1921.

[6] Fitz, Reginald: Surgical Anesthesia in Relation to Diabetes Mellitus, Am. J. Surg. (anesthesia supp.) **36**: 46-48 (April) 1922.

[7] Foster, N. B.: Surgical Aspects of Diabetes, J. A. M. A. **84**: 572-576 (Feb. 21) 1925.

TABLE 5.—*Details of Fatal Cases*

Case	Age	Sex*	Type of Diabetes	Anesthetic	Postoperative Days	Operation	Clinical Cause of Death	Necropsy Findings
1	51	♂	Moderate interstitial	Ether	4	Partial gastrectomy, appendectomy	Postoperative gastric obstruction and probable peritonitis	Refused
2	74	♂	Mild vascular	Ethylene and ether	19	Disarticulation of right great toe	Coronary sclerosis (?); pulmonary embolism (?); diabetic gangrene	Refused
3	57	♂	Mild interstitial	Ethylene	4	Cholecystogastrostomy	Bronchopneumonia; cancer of head of pancreas	Refused
4	54	♀	Mild obese	Cocaine	5	Tonsillectomy	Septicemia	Diabetes mellitus (clinical) with atrophy of pancreas (60 Gm); acute mitral endocarditis and terminal edema of brain
5	59	♂	Mild vascular	Ether and local	7	Suprapubic cystotomy; prostatectomy	Hypertrophy of prostate; myocardial degeneration; hypostatic edema of lungs; acute bronchitis; diabetes	Chronic cysto ureteropyelonephritis with acute exacerbation of phlegmons left cheek, neck and mediastinum, beginning gangrene; bronchopneumonia; acute pseudomembranous gastritis
6	55	♀	Mild vascular	Ethylene	11	Amputation through lower third of thigh	Staphylococcus septicemia; diabetic gangrene	Refused
7	71	♂	Moderate vascular	Ethylene and local	13	Drainage of perinephritic abscess, phlegmon of lower jaw and abscess of chest wall	Pyelocystitis; bacteremia	Refused
8	62	♀	Mild obese	Local ethylene and ether	34	Exploratory puncture below right scapula; radical amputation of left breast	Pneumonia; empyema; cancer of breast; metastasis	Amputation of left breast for cancer with pneumonia and empyema (healed), metastasis to lungs, pleura, mediastinal lymph nodes, parietal pericardium and omentum; infarct left lung; calcium left ureter with obstruction and dilatation of ureter; hydronephrosis, 3+; diabetes (clinical)
9	65	♂	Mild obese	Local	9	Colocolostomy	Pulmonary embolism; cancer of colon; diabetes	Recent colocolostomy for cancer of splenic flexure; jejunocolic fistula with pulmonary embolism (source?), diabetes (clinical), local peritonitis with moderate ileus, 2; cholecystitis with cholelithiasis
10	67	♀	Mild doubtful	Ethylene, ether and local	5	Finney pyloroplasty	Cancer of pancreas, pancreatitis and renal insufficiency	Cancer of pancreas with atrophy and metastasis to regional lymph nodes; recent excision and gastroduodenostomy for duodenitis with hemorrhage into stomach, duodenum, jejunum and local peritonitis; fatty changes in heart, liver and kidneys
11	57	♂	Mild obese	Ether and local	5	Anterior resection of rectosigmoid; temporary colostomy	Postoperative gangrene of wound	Postoperative gangrene of wound; formation of abscesses; arteriosclerosis
12	67	♂	Moderate doubtful	Ether	6	Cutting and avulsion of posterior root, gasserian ganglion	Bronchopneumonia	Section of posterior root of gasserian ganglion for trifacial neuralgia, with purulent bronchitis and bronchopneumonia; diabetes (clinical); cardiac hypertrophy, advanced coronary sclerosis
13	73	♂	Mild obese	Local regional	2	Prostatectomy; transfusion	Hypertrophy of prostate; myocardial degeneration	Suprapubic prostatectomy for hypertrophy and chronic infection of prostate with myocardial degeneration and cystitis; diabetes (clinical) with mild fibrosis of pancreas and fatty replacement; edema and congestion of lungs
14	69	♂	Mild obese	Ether	27	Herniotomy; removal of bilateral calcaneal spurs	Bronchopneumonia; staphylococcus septicemia	Refused
15	60	♂	Mild obese	Ethylene and ether	66	Temporary colostomy	Cancer of descending colon; pneumonia	Colostomy for cancer of descending colon with perforation; abscesses of left flank; metastasis to lymph nodes and liver; pneumonia with abscess formation; obesity; diabetes (clinical)
16	55	♂	Interstitial severe	Ether	6	Cholecystectomy	Lobar pneumonia	Obstruction of pancreatic duct by multiple calculi; destruction of pancreatic tissue; bilateral lobar pneumonia both lower lobes, fibrinopurulent pleuritis (1,500 cc left, 750 cc right); membranous enteritis of terminal ileum (30 cm)
17	59	♀	Mild obese	Ether	4	Appendectomy	Acute gangrenous appendicitis	Appendectomy and drainage for acute gangrenous appendicitis with generalized peritonitis; atrophy of pancreas, with diabetes (clinical); multiple diverticula of colon; cloudy swelling of kidney and liver
18	65	♂	Mild vascular	Nitrous oxide and oxygen, ether, and procaine	8	Partial thyroidectomy; suprapubic cystotomy for partial prostatectomy	Partial prostatectomy with pneumonia	Recent partial prostate [illegible] for can- [illegible] titis and [illegible] opneumo- [illegible] id follow- [illegible] d abscess [illegible] rophy of pancreas; arteriosclerotic atrophy of kidneys
19	65	♂	Mild obese	Field block	8	Permanent colostomy	Cancer of colon; colostomy with peritonitis	Colostomy for cancer of rectum with generalized peritonitis and terminal bronchopneumonia; metastasis to liver and mesenteric lymph nodes; thrombosis of portal vein
20	57	♂	Mild obese	Local	3	Removal of gland from right flank; transfusion; cholecystostomy	Cancer of pancreas; cholemia	Cancer of head of pancreas involving the ampulla of Vater; obstruction to common bile duct; general icterus; extensive pancreatitis; recent cholecystostomy

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* In this column, ♂ indicates male; ♀, female.

diet containing 140 Gm. of carbohydrate, for a period of four days before operation, unless a surgical emergency necessitates less delay. This diet is richer in carbohydrate than that ordinarily given to patients with diabetes, but is probably desirable in surgical cases in order to build up a reserve of glycogen and thus offset postoperative acidosis. Insulin is used in the amounts necessary to control any glycosuria that may arise.

Postoperative Treatment.—When the patient returns from the operating room, he receives insulin and glucose. The latter is started by proctoclysis and later, when postanesthetic nausea has disappeared, is continued in the form of fruit juices and ginger ale by mouth. Enough insulin is given in repeated doses so that at least 75 Gm. of glucose is metabolized every twenty-four hours. All urine is tested for the presence of sugar and diacetic acid. The plasma carbon dioxide capacity is estimated whenever there is any clinical evidence of acidosis, and the slightest acidosis is combated vigorously.

CONCLUSIONS

1. Suitable preoperative and postoperative management, the proper selection and judicious administration of anesthetics, and surgical technic that avoids unnecessary trauma and delay, contribute greatly to reducing the risk of operation on patients with diabetes.
2. Patients with diabetes who undergo operations are very susceptible to acidosis, but the danger of such acidosis can be practically eliminated by proper treatment. Insulin is of great value in preventing acidosis, but does not replace other measures the value of which was proved before insulin was available.
3. The healing of operative wounds proceeds without any greater delay than usual, provided diabetes is rigidly controlled. The healing of chronic ulcers or indolent wounds may possibly be stimulated by the direct application of insulin to the wound. Most patients with diabetes, particularly those requiring surgical procedures, are advanced in years, are overweight, and are suffering from advanced arteriosclerosis and other degenerative lesions which independently make the surgical risk serious.
4. In view of these considerations, it seems to us that such patients should be referred for operation to one of the larger medical centers, where surgeons may cooperate with physicians who are experienced in the treatment of diabetes.

Psychologic Versus Traditional Aims.—Modern theory is opposed to the customary aims of physical training as given by many physical training directors so far as they are dominated by faculty psychology and an extreme confidence in formal discipline. General "obedience" (to commands), general power of "determination," of "order," of "exactness and precision," of "self-control," of "endurance," etc., cannot be developed to any great extent by gymnastics or any other phases of school activities. One may gain great powers of self-control, precision and determination in certain phases of school work without showing or possessing such agilities when outside the school environment in which they were developed. This again lessens the emphasis on formal physical training and strengthens the emphasis on purposive psychologic play and work. The progressive physical educator today is in favor of combining and unifying physical and mental education as one purposive system of activities having their own end, and he sees the tendency very strong in this direction in up-to-date schools. He is in favor of using as many instinctive play activities as possible, but he realizes that our highly artificial systems of schooling, with their present buildings, grounds, equipment and courses, will long resist the transforming tendencies.—Williams: Physical Education, pp. 5-6.

OCCURRENCE OF THROAT INFECTIONS WITH STREPTOCOCCUS SCARLATINAE WITHOUT A RASH *

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During the winter of 1924 and 1925, an epidemic of hemolytic streptococcus infection occurred in the Presbyterian Hospital. The infections were prevalent among the nursing staff as well as among the patients admitted to the wards, and consisted chiefly of scarlatina, acute throat infections and infections of wounds. This epidemic has afforded the opportunity to study two phases of streptococcus infections: first, the infection of wounds by individuals who chronically carry hemolytic streptococci in the nose and throat, and, second, the etiology of cases of acute tonsillitis and pharyngitis occurring among contacts with scarlatinal patients. We will confine this report to the study of the streptococci obtained from the throats of the nurses with scarlet fever and acute streptococus throat infections, since the material relevant to wound infection is to be published elsewhere.[1]

All the cases reported occurred among the nursing staff, which was housed in one building. The epidemic began with several cases of scarlet fever in December. Following the scarlatina were numerous cases of streptococcus angina. These cases were especially prevalent in January and February, but sporadic cases of scarlet fever and simple throat infection occurred until May. After the first few cases of scarlet fever were observed, practically the entire nursing staff of the hospital was tested for susceptibility to scarlet fever by the intracutaneous injection of toxin. The majority of the scarlatinal infections were early in the epidemic, so that we were unable to collect data concerning the relative susceptibility of persons with positive and negative reactions, but opportunity was afforded to determine several points relative to infections with *Streptococcus scarlatinae.* The questions to be answered were: 1. Can an anginal infection with *Streptococcus scarlatinae* occur without a rash? 2. If such infection does occur, does it occur in susceptible persons as indicated by the intracutaneous toxin test for immunity? 3. Do agglutination and toxin production correspond as a test of specificity for the identification of strains of hemolytic streptococcus during an epidemic of scarlet fever? 4. Are strains of hemolytic streptococci from cases of acute pharyngitis as closely related as the groups from scarlet fever and erysipelas? To settle the points in question, cultures of the throats were taken and the agglutination reactions and toxin production of the hemolytic streptococci obtained were studied.

METHODS OF STUDY

Cultures were made on blood agar, and a colony of hemolytic streptococcus was transferred to broth containing sterile strips of potato. If strains were diffuse in this medium, they were transferred to blood broth for storage, while the granular strains were transferred several times in this medium until they became diffuse. Two strains were selected from among the scarlatinal group (S III, S VIII) and two strains from the cases of pharyngitis for the preparation of immune agglutinating serums. The pharyngitis strains (T I, T IV) chosen did not produce scarlatinal toxin. Rabbits were immunized according to previously outlined methods, and each of the twenty-three strains from both the scarlatinal and the pharyngitis groups was tested for agglutination with each of the four serums obtained (serums S III, S VIII, T I and T IV). The technic of agglutination was that of Dochez, Avery and Lancefield.[2] Certain modifications, however, have been employed to facilitate the procedure; i. e., the streptococci for agglutination were grown in phosphate broth with sterile potato strips, centrifugalized, washed once in distilled water and resuspended in phosphate broth.[3] These modifications overcome numerous difficulties. Since certain strains of hemolytic streptococci occasionally become physically incapable of agglutination yet retain their antigenic specificity, the strains were tested for their ability to absorb heterologous agglutinin from serums S III and S VIII. We have found that such strains are capable of absorbing agglutinin for scarlatinal strains from scarlatinal serums, thus establishing antigenic similarities.[3] The dosage of the toxin[4] for skin testing had previously been determined. Control injections were made with toxin heated at 100 C. for two hours. The toxin production of the various strains was tested with filtrates of 2 per cent horse serum broth cultures in persons showing positive skin reactions with known scarlatinal toxin. These filtrates were studied with regard to the presence of heat labile toxin and for neutralization with scarlatinal antitoxic serum.

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* From the Department of Medicine, Columbia University College of Physicians and Surgeons, and the Presbyterian Hospital.

[1] Meleney, F. L., and Stevens, F. A.: Postoperative Hemolytic Streptococcus Wound Infections and Their Relation to Hemolytic Streptococcus Carriers Among the Operating Personnel, Surg., Gynec. & Obst., to be published.

Skin Reactions of Patients and Toxin Production and Agglutination Reactions of Strains of Hemolytic Streptococci from Throat Cultures

	Skin Reactions in Individuals in Cm.		Toxins		Agglutination and Absorption with Strains Serum S III, S VIII, T I and T IV					
Strain	Control	Reaction	Heat Labile	Neutralized with Scarlet Serum	Agglutinates Serum S III	Absorbs Serum S III	Agglutinates Serum S VIII	Absorbs Serum S VIII	Agglutinates Serum T I	Agglutinates Serum T IV
S I	..	..	+	+	+	+	+	+	—	—
S II	..	..	+	+	+	+	+	+	—	—
S III	..	..	+	+	+	+	+	+	+	—
S IV	..	..	+	+	—	+	—	+	—	—
S VI	..	..	+	+	+	+	+	+	—	—
S XXII	..	..	+	+	+	+	+	+	±	—
T I	—	4	—	..	—	—	—	—	+	—
T II	..	..	+	+	+	+	+	+	—	—
T III	—	—	+	+	+	+	+	+	—	—
T IV	—	—	—	..	—	—	—	—	—	+
T VI	—	4	—	..	±	—	—	—	+	—
T VII	3	6	—	..	—	—	—	—	+	—
T VIII	—	—	+	+	+	+	+	..	±	±
T IX	..	..	+	—	—	—	—	—	—	—
T X	—	2	—	..	±	—	—	..	—	±
T XI	—	—	+	+	+	+	..	..	±	—
T XV	4	5	—	..	—	—	—	..	—	—
T XVI	4	4	—	..	—	—	—	..	+	—
T XVII	2	2	+	+	+	+	+	+	—	—
T XVIII	1	6	—	..	—	—	—	—	—	±
T XIX	..	..	—	..	—	—	—	..	—	±
T XX	1	3	—	..	+	+	+	+	—	—
T XXII	4	4	—	..	—	—	—	—	—	—

The data obtained in this study have been summarized in the accompanying table. The strains of streptococci have been arranged in the first column, with the source of each strain indicated by a letter, S (scarlatina) or T (acute pharyngitis). The second and third columns give the size of the skin reactions in centimeters with boiled and unboiled scarlatina toxin in the person from whom each strain was obtained. The fourth and fifth columns, respectively, show the presence of heat labile toxin and of toxin capable of neutralization with scarlatina antitoxic serums in the filtrates from cultures of the scarlatina and pharyngitis strains. The agglutination of the various strains with the serums scarlet I, scarlet VIII, throat I and throat IV is indicated by plus signs in the remaining columns. Under S I and S VIII, the column headed "absorption" shows whether the strains were capable (+) or incapable (—) of absorbing agglutinin from these serums for other scarlatinal strains.

COMMENT

The occurrence of scarlatina without rash has been suspected clinically for many years. Certain authors have noted the occurrence of severe angina without cutaneous manifestations among contacts with scarlatina.[5] Frequently these cases have been followed by severe nephritis.[6] Other instances have been noted in which scarlatina followed exposure to severe angina.[7] Aside from the rash, which varies greatly in intensity in scarlet fever, from the slightest punctate blush on the trunk and flexor surfaces in mild cases to the most vivid hue of red in the more toxic cases, it appears that we have no clinical criterion by which a severe streptococcus angina may be distinguished from scarlatina. Considering the variability of the rash in recognized cases of scarlet fever, there has been sufficient justification for believing that scarlatinal angina might occur without the usual cutaneous reaction.

Streptococcus scarlatinae is apparently a widely distributed organism. Williams[8] reports the presence of scarlatinal toxin producing strains in osteomyelitis, endocarditis, and in chronically inflamed tonsils in which there were none of the usual manifestations of scarlet fever. Since such strains have been isolated under these conditions, it is not surprising that five of the strains of streptococci obtained in cultures from the cases of acute pharyngitis occurring in this epidemic of scarlatina and angina showed both the agglutinative and the toxin producing properties of *Streptococcus scarlatinae.* This observation confirms the preceding clinical conception that scarlatinal angina may occur without a rash. How frequent these infections are cannot be ascertained from this series of cases, since all of the persons from whom cultures were obtained were scarlatinal contacts. Rosenow[9] has found strains of scarlatinal streptococci in acute follicular tonsillitis, but his series is too small to give an idea of the general incidence among nonscarlatinal contacts.

Perhaps the most important observation is that these cases of scarlatinal angina without rash have occurred among the personnel with negative Dick reactions. This leads us to believe that we must be careful in attempting to draw a strict analogy between scarlet fever and diphtheria. In diphtheria, in which the infecting organism is essentially a toxin producer and has little proclivity toward pyogenic manifestations, the Schick test is apparently an accurate index to the susceptibility of individuals to infection. We know that large amounts of scarlatinal antitoxin will prevent infection with *Streptococcus scarlatinae,* since both scarlatina and angina without a rash are rare among contacts immunized with antiscarlatinal serum. Among seventy-six contacts whom we have immunized with serum, scarlet fever occurred only once. When complications are established in scarlet fever with the scarlatinal streptococcus, this serum has no therapeutic effect. Apparently the streptococcus has both bacterial and toxic properties fully developed, and the Dick test, while indicating antitoxic immunity, is not an index of the amount of antitoxin necessary in the blood to prevent bacterial invasion. Rosenow, as well, has recently advanced the idea that the skin reaction is an index of antitoxic immunity and not of the immunity of the throat to streptococcus infection. Among a number of Dick negative individuals, a certain percentage will probably be immune to both the toxin and the bacteria.

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[2] Dochez, A. R.; Avery, O. T., and Lancefield, R. C.: Antigenic Relationships Between Strains of Streptococcus Hemolyticus, J. Exper. Med. **30**: 179 (Sept.) 1919.

[3] Stevens, F. A., and Dochez, A. R.: The Relationship Between Strains of Hemolytic Streptococci from Erysipelas and Scarlet Fever, J. Exper. Med., to be published.

[4] The toxin employed in the susceptibility tests was obtained through the courtesy of Dr. Williams of the Board of Health of New York City.

[5] Mayr, V., in Hebra's Diseases of the Skin, London, 1866. Thomas and von Ziemssen: Handbuch der speziellen Pathologie, Leipzig **2**: 269, 1874; Cyclopaedia of the Practice of Medicine, New York **2**: 251, 1875.

[6] Trousseau and Graves, quoted by Welch and Schamberg in Acute Contagious Diseases, Philadelphia, 1905. Leichtenstern, O.: Ueber die 1880 and 1881 in Köln herrschende Scharlach Epidemic, Deutsche med. Wchnschr. **8**: 173, 1882.

[7] Morris: Pathology and Therapeutics of Scarlet Fever, Philadelphia, 1858, p. 35. Graves, quoted by Welch and Schamberg (footnote 6).

[8] Williams, Anna W.: The Relationship Between Different Antibodies, Am. J. Pub. Health **15**: 129 (Feb.) 1925.

[9] Rosenow, E. C.: Precipitin Reaction in the Diagnosis of Scarlet Fever and Allied Hemolytic Streptococcus Infections, J. A. M. A. **86**: 9 (Jan. 2) 1926.

It is interesting to observe that toxin production and agglutination with scarlatinal immune serums are closely parallel. The agglutination of the strains from the cases of nonscarlatinal pharyngitis indicate that there is no relation between strains of hemolytic streptococci causing acute throat infections.

CONCLUSIONS

1. Scarlatinal infection of the throat may occur without a rash.
2. This type of infection may occur in individuals showing negative skin reactions to scarlatinal toxin.
3. The Dick test is not a reliable index of immunity to such throat infections with *Streptococcus scarlatinae*.
4. In the series of cases observed, agglutination reactions with scarlatinal serum and toxin production are closely parallel.
5. There is no antigenic relationship between strains of hemolytic streptococci from acute streptococcus pharyngitis.

THE PATHOLOGIC PHYSIOLOGY OF EXPERIMENTAL GANGRENOUS PANCREATITIS *

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In this paper I present a brief preliminary report of a group of experiments, the object of which was, if possible, to obtain more information concerning the causes and the nature of the violent toxemia occurring in acute hemorrhagic pancreatitis. Ultimately, it was hoped, a more rational and effective treatment of the disease might be evolved than is now generally employed.

No attempt will be made here to discuss the literature on acute pancreatitis, or to describe the clinical manifestations of the disease. For this information the reader is referred to the recent very inclusive paper by Moynihan.[1] Suffice it to say that almost every conceivable method by which the pancreas could be seriously injured has been utilized to reproduce in animals the clinical picture of acute pancreatitis; all that is necessary is that a sufficient amount of pancreatic tissue be suddenly so devitalized that an extensive necrosis and autodigestion of the gland will occur.

The most hotly contested questions between experimenters on this disease pertain at present to the rôle played by bacteria in its etiology and symptomatology. Deaver, Arnsperger and Maugeret are the principal proponents of the theory that the prime factor in the causation of the disease is an infection reaching the pancreas by way of lymphatics from neighboring organs. Others consider that the entrance from the duodenum of bacteria (which are presumed to be normally absent) into the pancreatic ducts under certain conditions may activate intraductally the pancreatic enzymes, which will then produce a severe pancreatic lesion. Those who adhere only to the bile theory of the etiology of acute pancreatitis manage to disagree as to the importance of infected versus noninfected bile. It is far from a settled matter whether the toxemia of acute pancreatitis is dependent on the absorption of protein split products from the necrosing gland into the general circulation and whether bacteria play any rôle in the formation of these substances, or on the diffusion of ferments into the peritoneal cavity with the absorption of poisonous products of their action on the peritoneal tissues, or on the absorption into the general circulation of these ferments. No one has, as far as I know, considered the possibility of a toxemia occurring as a result of a severe local injury by these protein split products, acting presumably on the intestinal musculature and probably also on that of the vascular system. The experiments cited here strongly indicate that such may be the mechanism by which the toxemia is produced. These experiments were commenced with the idea of producing, if possible, a strictly aseptic, typical pancreatitis, and if this was not possible, of studying the rôle of the organisms that were found.

METHODS

Dogs were used throughout most of the work; all experiments were done with complete morphine-ether anesthesia. An absolutely typical picture of acute hemorrhagic pancreatitis was produced by the simple process of tying off all the blood supply to a sufficient amount of the gland. A similar method was used by Blume[2] in 1897 and by Katz and Winkler[3] in 1898. The anatomy of the dog's pancreas is such that the head and tail are thus very easily rendered gangrenous, the body with difficulty so. The head, tail and body of the gland each represent approximately one third of its total weight. When it was desired to injure the body of the pancreas in addition to the head and tail, several methods were used; namely, injection of bile through the pancreatic duct, crushing the body with forceps, or tying multiple ligatures through its substance. In the bacteriologic work, more than ordinary precautions were taken to insure operations and necropsies as aseptic as possible. Necropsy cultures were taken immediately after death, or, preferably, the animals were killed when moribund if death seemed imminent. All cultures were taken on enriched mediums. In one group of animals an attempt was made to produce the usual toxemia of acute pancreatitis by the removal of aliquot portions of the pancreas and replacing them in the abdomen, carefully wrapped in the omentum. That this failed is highly significant.

RESULTS

The extreme variation in the symptoms and pathologic conditions developing from the same identical procedure in different animals is very striking. By the methods described, all the different pathologic conditions characteristic of acute pancreatic affections in the human being have been reproduced, from complete gangrene to the formation of large, single pseudocysts. The one notable difference was the absence of fat

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* From the Albert Kuppenheimer Fund of the Michael Reese Hospital, the Nelson Morris Memorial Institute for Medical Research, and the Hull Physiological Laboratory of the University of Chicago.

[1] Moynihan, B.: Ann. Surg. **81**: 132-142 (Jan.) 1925.

[2] Blume, F.: Beitrag zur wissenschaftlichen medizinischen Festschrift der Versammlungen deutschen Naturforscher und Aerzte, Brunswick, 1897, pp. 132-153.

[3] Katz, A., and Winkler, F.: Arch. f. Verdauungskr. **4**: 289-367, 1898.

necroses in about two thirds of the animals. I have no explanation for this. They are, however, occasionally reported absent by clinicians.

The mortality statistics which follow are of considerable interest:

> One third of the gland (head or tail) destroyed (i. e., all blood vessels tied off and the portion thus isolated left in situ): Four out of eleven animals (36 per cent) died in from twenty-four to seventy-two hours of a typical acute hemorrhagic pancreatitis.
>
> Two thirds of the gland destroyed (head and tail): Fourteen out of twenty-five animals (56 per cent) died in from eighteen to 120 hours of a typical pancreatitis.
>
> More than two thirds of the gland destroyed: Of six animals, all died in forty-eight hours or less.
>
> One third of the gland removed and wrapped in the omentum: Six animals, no deaths.
>
> Two thirds of the gland removed and wrapped in the omentum: Three animals, no deaths.
>
> Entire gland from another animal wrapped in omentum: One animal, survived.

The symptoms indicative of the amount of toxemia varied also in much the same way. Unmistakable signs of a severe toxemia were present in 80 per cent of the animals with one third of the gland destroyed, and in all of those with two thirds or more destroyed. Of those animals with one third removed to the omentum, none showed more than the slightest evidence of malaise; all those with two thirds or more removed showed a moderate degree of general indisposition.

The number of animals presenting extensive walling-off adhesions of the omentum and the neighboring structures to the pancreas at necropsy was somewhat higher for those that recovered. This may be either the cause of or the effect of the recovery or both.

All attempts to produce a sterile pancreatitis failed. Organisms were always found in one or more of the cultures taken from the peritoneal exudate, the gangrenous gland, localized abscesses, etc. Twenty-three sterile necropsies were performed; in only two of these were all cultures negative. These were from animals in which part of the pancreas had been removed to the omentum, where it had become firmly encysted, and there was no toxemia or any of the pathologic findings of acute pancreatitis. Although organisms were always found, the impression received from the experiments was that the presence of bacteria in the acutely inflamed tissues was merely incidental, in that the reaction involved was one due to a violent toxemia which so reduced the vitality of the tissues that the nonpathogenic bacteria were able to gain a temporary foothold, which they lost rapidly as the toxemia disappeared. The fact that such organisms could be demonstrated in the peritoneal exudate of an animal well on the road to recovery, with no evidence whatever of peritonitis (i. e., the ordinary infectious type), indicates their probable relative unimportance in the picture, unless it be, as we now have no method of determining, that their mere presence in the tissues and exudate adds to the toxemia through products of their growth. This consideration puts the problem in the same class with that very difficult one of the rôle of bacteria in the toxemia from acute intestinal obstruction.

Sixteen bacteriologic analyses of fresh pancreas tissue removed sterilely at operation showed the presence of bacteria in all except one. It would appear from this that bacteria are normally present in the pancreas, presumably in the ducts.

In general, those organisms found in the fresh pancreas and in the tissues and exudate at necropsy were of a nonpathogenic variety, and were those organisms common to the upper gastro-intestinal tract. Various staphylococci, occasionally nonhemolytic streptococci, *B. subtilis, B. coli,* diphtherioid bacilli, sarcinae, yeasts and molds were the most frequent ones found.

COMMENT

Observation of the facts that the entire clinical and pathologic picture and the mortality rates are so very different when a given amount of pancreas tissue is allowed to autolyze completely wrapped up in the omentum from those obtained when it is left in situ; that the clinical picture of a typical case of acute pancreatitis so closely resembles that of an acute upper intestinal obstruction that it is often impossible to differentiate them; that there is a greater tendency on the part of the animals to recover when the omentum and other adjacent structures become adherent to and wall off the necrosing pancreas, and the distinct indications that the bacteria present in the inflamed tissues and exudates of the abdominal cavity are the result of and not the cause of this inflamed condition, leads to the suggestion that the symptoms of acute pancreatitis may be dependent on the liberation of some toxic product from the necrosing pancreas tissue, which, acting locally on the gastro-intestinal tract, and principally the upper gastro-intestinal tract, so interferes with its normal function as to produce a generalized toxemia of gastro-intestinal origin, probably of the nature of that associated with a paralytic ileus. The possibility that the omentum has some detoxifying power must also be considered as an explanation of the findings here reported, but this seems a less likely explanation. I shall not attempt here to give any actual figures as to the number of cases gleaned from the literature in which complications have been noted in man or in animals, occurring with acute pancreatitis, in which a disturbance in gastro-intestinal motility is indicated. Obstipation is a not infrequent symptom. In my own series of animals, three have died of intussusception in the jejunum, and one of acute dilatation of the stomach. Since the method I have used to produce pancreatitis involves a minimum of trauma, these complications could probably not be explained on that basis. The finding at necropsy of more or less dilatation of part or all of the gastro-intestinal tract, especially the duodenum, but sometimes only of those loops of bowel near the pancreas, is almost the rule, and not infrequently I have noted a loss of the normal elasticity of the intestinal walls so that they stretch like dead rubber. The mere intensity of the peritoneal reaction in acute pancreatitis would indicate a local irritation that has certainly been overlooked far too much in the past. Might not the extreme splanchnic congestion, the very low blood pressure, and the hemorrhagic exudate be the result of a local paralysis of the vascular musculature?

If this premise concerning the origin of the toxemia in acute pancreatitis approaches the truth, it opens up those new lines of therapy which are proving effective in the treatment of acute intestinal obstruction, as possibilities to control the toxemia of acute pancreatitis. Modifications of the methods advocated by Haden and Orr, the Portises and others may prove more effective than the present one of putting a drain in the pancreas. Experiments designed to test out these therapeutic methods in experimental acute pancreatitis are being conducted at present and will be reported in a later paper, as will also a group of experiments in progress on the blood chemistry changes in acute pancreatitis.

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LIVER FUNCTION TESTS

A COMPARATIVE STUDY OF FIVE METHODS IN ONE HUNDRED CLINICAL CASES *

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On our service at Mount Sinai Hospital during the last three years we have performed liver functional tests as a routine. The present report gives the results of 100 cases in which five tests were performed simultaneously, or within an elapsed time of forty-eight hours, which were done in the last year. The tests performed were the van den Bergh test,[1] the Widal[2] test (hemoclastic crisis), Rosenthal's[3] test, examination of the urine for urobilin and urobilinogen, and examination for bile salts in the urine.

THE VAN DEN BERGH TEST

Both the qualitative, which is divided into the immediate direct, biphasic direct, the delayed direct and the indirect, and the quantitative tests were employed. The quantity of bilirubin was expressed in units, the unit being a concentration of 1 in 200,000. We regarded 0.5 unit as the upper limit of normal.

Table 1.—*Results Obtained in a Negative and a Positive Widal Test*

A Positive Widal		Check on Same Patient
Before giving milk	14,400	10,800
30 minutes after	12,400	11,000
60 minutes after	13,400	10,400
90 minutes after	11,800	11,600
120 minutes after	12,600	10,800
A Negative Widal		**Check on Same Patient**
Before giving milk	7,800	7,800
30 minutes after	10,200	7,800
60 minutes after	9,000	7,600
90 minutes after	9,600	7,800
120 minutes after	9,400	7,600
150 minutes after	11,000	77,800

THE WIDAL TEST

We modified the original Widal technic by determining the changes in white cell count at thirty minute, instead of fifteen minute, intervals, following the ingestion of 200 cc. of milk given in the morning on an empty stomach or, in a few cases, after a fast of five hours. We have regarded a fall in the count of 1,000 cells within a three hour period as positive, and have designated it as one plus, adding another plus for each additional drop of 500 cells. The leukocyte counts were all done by the same person. Checks were made of the margin of error, using different pipets and making several counts on the same person at thirty minute intervals without having administered the milk. The average variation was 200 cells. The largest was 800 cells. Tests were also run on twenty-five normal persons—nurses and laboratory technicians—to check the method. All were negative. An example of the check used is given in table 1, showing the results obtained in the case of a negative and a positive Widal.

ROSENTHAL'S TEST

We have followed the modification of Rosenthal's original methods, which were described by Bogen,[4] and by Bloom and Rosenau,[5] and have taken the reading one hour after injection of the dye. Retention after one hour has been considered positive.

EXAMINATION OF URINE FOR UROBILIN AND UROBILINOGEN

For urobilinogen, Ehrlich's reagent[6] was used, and the determinations were made on freshly voided warm specimens. For urobilin, Schlesinger's[6] method was followed. We have found that this test is more easily read after standing for twenty-four hours.

BILE SALTS IN THE URINE

The Hay test[6] for the determination of bile salts in the urine has been used by us with especial attention to the following details: It should be performed on the morning urine, as this is the most concentrated sample in the twenty-four hours. It is important to use a clean beaker, filtered, freshly voided urine, and dry, finely powdered sublimed sulphur. The beaker should be on a level with the eyes, and good light is necessary. The test is based on the diminution of the surface tension of the urine in the presence of bile salts. If the test is positive, the sulphur particles will begin to fall to the bottom of the beaker immediately. The rapidity with which the sulphur particles are falling to the bottom of the beaker may be taken as a rough index of the amount of bile salts present. Studies of the bile salts content of the blood were made by Pettinkofer's method,[6] but its significance will not be discussed here.

The cases have been divided into four classifications: group 1, cases of liver disease with jaundice, nineteen observations; group 2, cases of liver disease without manifest jaundice, six; group 3, cases with clinical conditions in which liver disease was suspected but not clinically demonstrable; group 4, cases with clinical conditions in which liver disease was unsuspected, thirty-eight.

Group 1.—*Cases of liver disease with jaundice, nineteen observations.* This group consists of fourteen patients with the following diagnoses: There were seven cases of toxic jaundice, five of which were catarrhal, one followed arsphenamine therapy, and one which occurred during pneumonia; four cases of obstructive jaundice due to growth in the pancreas or ducts (operation); two cases of cholelithiasis (in which operation was performed); one with stone in the common duct with incomplete obstruction, and one case of primary carcinoma of the liver (necropsy).

Group 2.—*Cases of liver diseases without manifest jaundice, six observations.* Here there are six cases with the following clinical diagnoses; one case of pernicious anemia; one of Banti's disease; one of splenomegalic type of cirrhosis (in which operation was performed); one of secondary carcinoma of the liver; one of cardiac failure with enlarged liver and questionable jaundice, and one of enlarged liver and cholecystitis.

Group 3.—*Cases with clinical conditions in which liver disease was suspected but not clinically demonstrable.* In this class we have included cholecystitis, in which there is a direct inflammatory reaction in the liver; and the acute infectious fevers and toxemias in which in all the organs, including the liver, there is cloudy swelling and parenchymatous degeneration.

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* From the medical service of Mount Sinai Hospital.

[1] Van den Bergh, A. A. H.: Diazo Test for Bilirubin in Blood Serum, Presse méd. **29**: 441 (June 4) 1921.

[2] Widal, F.; Abrami, P., and Iancovesco, N.: Digestion Hemolysis Test for Insufficiency of Liver, Presse méd. **28**: 893 (Dec. 11) 1920.

[3] Rosenthal, S. M.: An Improved Method for Using Phenoltetrachlorphthalein as a Test of Liver Function, J. Pharmacol. & Exper. Therap. **19**: 385-391 (June) 1922.

[4] Bogen, E.: Clinical Test of Liver Function, J. Lab. & Clin. Med. **8**: 619-621 (June) 1923.

[5] Bloom, William; and Rosenau, W. H.: A Simple Method for the Determination of Phenoltetrachlorphthalein in Blood Serum, J. A. M. A. **82**: 547 (Feb. 16) 1924.

[6] Haden, R. L.: Clinical Laboratory Methods, ed. 2, St. Louis, C. V. Mosby Company, 1924.

Group 4.—*Cases with clinical conditions in which liver disease was unsuspected, thirty-eight observations.* In this group we have included those chronic conditions commonly seen in medical wards.

Table 2 shows the result of these tests in cases of toxic jaundice. As these are all cases with jaundice it is, of course, obvious that the quantitative van den Bergh test should be positive in all, since this test is merely a measure of the circulating bilirubin. The Widal test is also positive in all cases. This also is not surprising when one remembers that in toxic jaundice there is marked injury to the polygonal liver cells, and it is these cells that are supposed to perform the protein function of the liver. The dye test was positive in all except one case which was seen during convalescence. In one other case, namely, case 2, the dye test, which had previously been positive, became negative, while the Widal and van den Bergh tests were still positive. Urobilin or urobilinogen appeared in the urine in all cases except during the obstructive phase of catarrhal jaundice. It was at this period chiefly that bile salts also appeared.

Table 2.—*Results of Tests in Cases of Liver Disease with Toxic Jaundice (Nine Observations)*

Case	Diagnosis	Van den Bergh	Widal	Dye	Urobilin	Bile Salts in Urine
2	Catarrhal jaundice	10 0	..	3 5%	—	..
		2 5	..	16 0%	..	..
		9 71	..	—	—	—
8	Pneumonia with toxic jaundice	....	..	......	..	..
4	Catarrhal jaundice	10 0	..	10 0%	—	—
6	Catarrhal jaundice	20 0	..	18 0%	..	..
82	Catarrhal jaundice	25 0	..	20 0%	..	—
99	Catarrhal jaundice defervescence	1 0	..	—	..	—
107	Arsenical poisoning; acute systemic syphilis	15 0	..	10 0%	..	..
Percentage positive......		100%	100%	77.8%	66 6%	55 5%
Percentage negative......		0	0	22.2%	33 4%	44 5%

Table 3 shows the results of these tests in cases of jaundice due to stone or tumor. It will be noted again that the van den Bergh test shows an increase in circulating bilirubin in all cases. The Widal test is positive only in those cases due to stone, and in the case of primary carcinoma of the liver, with the exception of one slight reaction, in case 104, after there had been complete obstruction due to tumor at the head of the pancreas for ten weeks. It was persistently negative in all of the observations in jaundice due to tumor obstructing the ducts, with the exception noted above. This is the one laboratory finding which in our experience has enabled us to differentiate between jaundice due to growth obstructing the ducts and that due to stone or catarrhal jaundice in the stage of complete obstruction. The dye test was not always positive. In the cases of obstructive jaundice it generally paralleled the bilirubin retention, except in two cases of cholelithiasis and cholecystitis proved at operation, in which it was negative. Urobilin and urobilinogen were present in all except one case when bile reached the intestine, but were absent in all cases during the completely obstructive phases. Bile salts were found in all cases except the two previously mentioned in which the dye test was negative, and late in case 104, when, after ten weeks of complete obstruction, the bile salts disappeared.

Table 3.—*Results of Tests in Cases of Liver Disease with Jaundice Due to Stone or Tumor (Ten Observations)*

Case	Diagnosis	Van den Bergh	Widal	Dye	Urobilin	Bile Salts in Urine
1	Primary carcinoma of liver (necropsy)	0 5	..	11.0%	..	..
87	Carcinoma of pancreas and common duct	10 0	—	22 0%	—	..
88	Carcinoma of hepatic duct	20 0	—	13 0%	—	..
104	Carcinoma of head of pancreas; 10 wks. of jaundice	5 0	—	......	—	..
		20 0	—	—	—	..
		5 0	..	30 0%	—	—
115	Carcinoma of head of pancreas; ob. jaundice	20 0	—	25 0%	—	..
		20 0	—	35 0%	—	..
98	Chronic cholelithiasis; stone in common duct	1 5	..	—	—	—
92	Cholecystitis; gallstones	5 0	..	—	..	—
Percentage positive......		100%	40%	60%	30%	80%
Percentage negative......		0	60%	40%	70%	20%

Table 4—*Results of Tests in Cases of Liver Disease Without Jaundice (Six Cases)*

Case	Diagnosis	Van den Bergh	Widal	Dye	Urobilin	Bile Salts in Urine
86	Metastases; carcinoma of liver and uterus	0 2	..	0	..	0
9	Obesity and umbilical hernia; cholecystitis, enlarged liver	0 6	0	6%	0	0
81	Splenomegalic cirrhosis	1 25	..	0	..	..
58	Pernicious anemia	1 25	.	0	..	0
65	Splenomegalic cirrhosis	0 63	0	6%	..	..
85	Cardiac failure with slight jaundice	1 25	0	0	0	0
Percentage positive .		83 3%	50 0%	33 3%	66 6%	33 3%
Percentage negative . ..		16 6%	50 0%	66 6%	33 3%	66 6%

Table 5.—*Results of Tests in Cases with Clinical Conditions in Which Liver Disease Is Suspected (Thirty-Seven Observations)*

Van den Bergh		Widal		Dye		Urobilin		Bile Salts	
Pos	Neg	Pos.	Neg.	Pos	Neg	Pos	Neg	Pos	Neg
37.9	62 1	59 4	40 6	16 2	83 8	32 5	67 5	48 6	5 14

Table 4 shows the results in the cases in group 2. The van den Bergh test was positive in 83 per cent, the Widal in 50 per cent, the dye in 33 per cent, urobilin and urobilinogen in 63 per cent, and bile salts in 33 per cent. The dye test and the bile salt test were the only ones not positive in the majority of the cases.

Table 6—*Results of Tests in Cases with Clinical Conditions in Which Liver Disease Was Unsuspected (Thirty-Eight Observations)*

Van den Bergh		Widal		Dye		Urobilin		Bile Salts	
Pos.	Neg	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos	Neg
42 1	57 9	39 4	60 6	10 5	89 5	5 5	94 5	23 6	76 4

Table 7—*Results in Groups 2, 3 and 4*

	Van den Bergh	Widal	Dye	Urobilin	Bile Salts
Group 2. Liver disease without jaundice	83 3	50 0	33 3	66 6	33 3
Group 3. Suspected liver disease	37 9	59 4	16 2	32 5	48 6
Group 4 Unsuspected liver disease ...	42 1	39 4	10 5	5 5	23 6

Table 5 comprises the observations in group 3, and table 6, those in group 4.

Table 7 comprises the results of these tests in group 2 (liver disease without jaundice); group 3 (suspected liver disease), and group 4 (unsuspected liver disease).

SUMMARY

In group 1-A, toxic jaundice, all the tests were positive. In group 1-B, obstructive jaundice, in all cases due to stone, all the tests were positive; in all cases due to tumor of the pancreas or biliary ducts, all the tests were positive in each case except the Widal, which was negative in all.

In group 2, clinical liver disease without jaundice, the tests did not yield uniformly positive results. In no case were all positive; in two cases, four of the five were positive, and in the remainder, from one to three were positive.

In group 3, cases in which liver disease was suspected but not clinically demonstrable, no case yielded positive reactions to more than three of the tests; in some, three were positive, but in the majority, only one or two were positive.

In group 4, cases in which no liver injury was suspected, the results were similar to those of group 3.

COMMENT

In any attempt to evaluate these tests, an explanation must be found for the relatively high percentage of positive findings for all of them in groups 3 and 4, as shown in table 7. There are two possibilities, namely:

1. That none of these tests are specific for liver dysfunction.
2. That these tests are specific for liver dysfunction, but that many persons have latent liver damage or liver dysfunctions that are transient and are undetectable by ordinary means.

Credence for the first possibility can be given only if these tests are positive in perfectly normal persons. The persons usually employed for controls are hospital patients who may well have latent injury regardless of the clinical diagnosis. To check this hypothesis we have performed Widal tests on twenty-five normal volunteers, nurses and laboratory technicians who have not been ill for a period of twelve months and who have never had any affections of the appendix, gallbladder, liver or its ducts. In each instance the test was negative. We are able to conclude, therefore, with Feinblatt, who found negative tests in each of eighty medical students, that the Widal test is not positive in normal persons. Rosenthal states that in normal persons, if 5 mg. of phenoltetrachlorphthalein per kilogram of body weight is injected intravenously, all is eliminated in one hour, but he regards from 2 to 3 per cent as within the normal limit.

The second hypothesis seems, therefore, to be the more logical one. These patients were ill in bed, and latent liver injury may have been present. With this in mind one must be careful in the choice of normal controls and must not use cases such as those of the Mayo Clinic series,[7] as in our experience cases with chronic infectious processes do give positive reactions to some of these tests.

CONCLUSIONS

1. It is important to bear in mind that these tests represent different functions of the liver. Any one or more or all of these functions may become impaired. Again, one or more of these functions may escape injury. Therefore the various tests do not give parallel results. When we attempted to separate clinical cases into groups of liver disease or no liver disease by means of any one of these tests, unsupported by other clinical evidence, we were unable to do so.
2. When all the tests were positive, we were dealing with liver disease, clinically of the most severe type; namely, toxic jaundice.
3. When all tests were positive except one, namely, four positive and one negative, clinical liver disease was present, usually of a chronic type, such as that seen in Banti's disease or pernicious anemia and cirrhoses.
4. In every case in which all the tests were positive except the Widal, there was obstructive jaundice due to tumor. This finding is of great value in differential diagnosis.
5. When only three tests were positive it was impossible to correlate the findings with the clinical picture, as there were many cases in which liver disease was suspected which did not give positive reactions to more than one or two tests and, conversely, there were many cases in which liver disease was unsuspected which gave as many positive results.
6. At present they are of use chiefly in the differential diagnosis and in following the progress of a given case.[8] The greatest amount of information can be gained by doing all the tests simultaneously and repeating them often.

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SIGNIFICANCE OF THE BLOOD CHEMICAL CHANGES IN PERTUSSIS

THERAPEUTIC INDICATIONS *

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Important advances have been made in the study of whooping cough in recent years, along the lines of bacteriologic and serologic research. The etiologic relationship of the bacillus described by Bordet and Gengou has been more definitely established, and Bordet has applied his fundamental work in immunology to the development of a complement fixation test for the diagnosis of the disease, which may permit the recognition of the abortive, rudimentary or atypical forms. A vaccine prepared from *Bacillus pertussis* has been utilized in prophylaxis and treatment, but vaccine therapy has given such inconstant results that a considerable difference of opinion exists as to the curative value that it may possess. A mixed vaccine apparently has a definite prophylactic value against the bronchopulmonary complications. Recently, much interest has been aroused in the roentgen-ray treatment of the disease, described by Bowditch.[1] Several favorable reports relative to its use were made at first, but the discussion which followed the recent paper by Smith and his associates[2] brought up the pertinent facts of the effect of the treatment on the thyroid and thymus as well as the value of the remedy. The recent report of Faber and Struble was not favorable.[3] The mode of action of the roentgen ray was thought at first by

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[7] Green, C. H.; Snell, A. M., and Walters, Waltman: A Survey of Tests for Hepatic Function, Arch. Int. Med. **36**: 248-273 (Aug.) 1925.

[8] The use of these tests in the differential diagnosis of jaundice and in the estimation of the progress of a given case will be presented in a subsequent paper.

* From the Kingston Avenue Hospital of the Department of Health, and the Kings County Hospital Laboratories.

[1] [illegible] .eonard, R. D.: Preliminary Report of the [illegible] gh by Means of the Roentgen Ray, Boston [illegible] 8) 1923. Bowditch, H. I.: Further Notes on the Treatment of Pertussis by Roentgen Ray, J. A. M. A. **82**: 1422 (May 3) 1924.

[2] Smith, L. W.; Bowditch, H. I., and others: Treatment of Pertussis by Roentgen Ray, J. A. M. A. **85**: 171 (July 18) 1925.

[3] Faber, H. K., and Struble, H. P.: Does Roentgen Ray Modify the Course of Whooping Cough? J. A. M. A. **85**: 815 (Sept. 12) 1925

Bowditch to be the result of an effect of the rays on the tracheobronchial adenitis and later by Smith and Bowditch surmised to be due possibly to an influence on the calcium content of the blood, although they had no opportunity to make actual determinations. It is important to recall here, in view of the results we are reporting, that Hussey[4] found that the roentgen ray induced a condition of alkalosis in rabbits, as confirmed by Victor Myers[5] in clinical cases of carcinoma treated by the roentgen ray.

In a recent paper,[6] a brief outline of the results obtained in an analysis of 200 specimens of blood from pertussis cases was made. Attention was drawn to two alterations detected with considerable constancy; namely, a diminution of the total inorganic phosphorus content of the plasma, and a change in the hydrogen ion concentration. We now present further data relative to the blood chemical findings of this disease, giving the results in somewhat more detail, and outline briefly the apparent effect of the administration of alkaline salts on the chemical changes of the blood and on the course of the disease.

Our study was carried on during the summer and early fall of 1924 and 1925. There were more than 111 patients with mild, moderate or severe pertussis in the group, the ages ranging from 4 months to 12 years, 78 per cent being over 3 years of age.

Table 1.—*Blood Chemical Determinations in Pertussis Before Treatment*

	Normal Blood Values	Blood in Pertussis: No. of Determinations	Average Value	Range: Minimum	Range: Maximum
Hydrogen ion concentration	7.35-7.40	37	7.29	6.95	7.45
Phosphorus (inorganic).....	4.5-7.0 mg.	37	2.4	0.7	3.6
Calcium........................	10.5-11.5 mg.	32	10.5	8.5	13 3
Carbon dioxide..............	53-77 % by vol.	20	56	42	68
Urea..........................	20-35 mg.	25	27	18	37
Uric acid......................	2-3 mg	31	3.3	1.2	5.5
Creatinine....................	1-2 mg.	27	1.1	0.9	1.3
Sugar..........................	68 mg.	23	65	50	76

BLOOD CHEMICAL DETERMINATIONS

The investigations included the following analyses: hydrogen ion concentration, 146; inorganic phosphorus, 211; calcium, 58; carbon dioxide, 83; urea, 38; uric acid, 59; creatinine, 44; sugar, 43; total determinations, 682.

The blood was taken in the morning before breakfast, and the examination was carried out promptly, or the blood was stored for a short period in the icebox after transportation to the laboratory. The usual precautions necessary in collecting specimens for determinations of the p_H were utilized, such as short compression of the arm, the avoidance of air entering the syringe, and the injection of the blood into paraffin coated bottles under liquid petrolatum.

Values for Urea, Uric Acid, Creatinine and Sugar.—The determinations gave values which, on the average were within the normal range for urea, creatinine and sugar. The uric acid figures on the average were slightly above the high normal values for this constituent.

Carbon Dioxide Content of Plasma.—The average value for carbon dioxide was in the lower part of the normal range. Thus, in twenty moderate or very severe cases before any treatment, the average figure was 55.3 per cent by volume, while in twenty-four mild untreated cases the average figure was 60.8. Obviously, there was no definite pathologic change, as the patients were all children, with one exception.

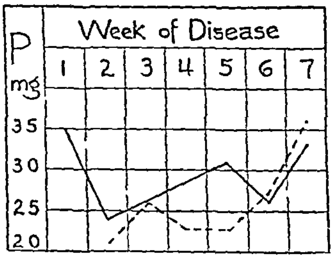

Chart 1.—Inorganic phosphorus in blood in pertussis. solid line, treated cases of moderate and severe pertussis; broken line, mild and untreated cases.

Phosphorus Content.—The total inorganic phosphorus content of the serum showed a diminution which was so constantly encountered that, with the alteration in p_H previously mentioned, we have called it characteristic (table 1).

When the first low values for phosphorus were encountered, the possibility of a rachitic basis was considered. As further study was made, we felt that this possibility could be dismissed, for several reasons. As mentioned before, more than 78 per cent of the children were over 3 years of age or beyond the period when active rickets is so common; none of the patients except a few of the infants had any active signs of rickets; the accentuation of the diminution of the phosphorus was entirely unrelated to the age of the patient, bearing a relation only to the stage and duration of the disease; the rise in inorganic phosphorus occurred without any of the classic antirachitic means of treatment, and was induced in a number of cases, especially in those in which the disease was treated early, with a remarkable rapidity, as will be shown later by the administration of alkalis. Moreover, the hydrogen ion concentration of the blood is lowered, a condition not spoken of in rickets.

Beginning in the latter part of the catarrhal stage of pertussis, a lowering of the total inorganic phosphorus of the blood occurs (1.6, 1.7 and 2.5 mg. in three cases), which is already well established in the very first week of the paroxysms (1.5, 1.7, and 2 mg. in four cases).

Table 2.—*Blood Chemical Determinations in Pertussis in Relation to Treatment* *

	No. of Determinations	Before Treatment	No of Determinations	During Treatment	No. of Determinations	After Treatment
Hydrogen ion concentration	37	7.29	46	7.37	25	7.43
Phosphorus, total inorganic	37	2.4 mg.	56	2.6 mg.	47	3.1 mg.
Calcium........................	32	10.5 mg.	13	9.9 mg.	9	10.5 mg.
Uric acid......................	11	3.4 mg.	14	3.3 mg.	7	3.9 mg.
Carbon dioxide..............	20	56 % by vol.	22	52 % by vol.	18	57 % by vol.

* This table shows the changes that occur in the blood under alkali treatment.

In moderate and severe types of the disease treated by alkalis, there is an average rise in the third week in phosphorus, which continues in the fourth and fifth weeks, with a slight fall in the sixth week, and the highest level in the seventh week (chart 1). In mild cases untreated by alkalis, there is on the contrary a lower average curve, so that after a temporary rise in the third week, the average continues low in the fourth and fifth week, beginning to rise in the sixth week (chart 1).

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[4] Hussey, R. G.: The Influence of X-Rays on the Properties of the Blood, J. Gen. Physiol. **4**: 511 (May) 1922.

[5] Myers, V. C., and Booker, L. E.: Some Variations in the Acid Base Balance of the Blood in Disease, J. Biol. Chem. **59**: 699 (April) 1924.

[6] Regan, J. C., and Tolstouhov, Alexander: Characteristic Changes in the Blood Chemistry in Whooping Cough, J. A. M. A. **86**: 181 (Jan. 16) 1926.

Hydrogen Ion Concentration.—The hydrogen ion concentration of the blood was determined in the plasma taken with usual precautions and was examined by either or both the electrometric or colorimetric method. The results show a change in the p_H which has been very accentuated in some analyses. The change in the p_H in the first five weeks of the disease (chart 2) in treated cases (moderate and severe type) corresponds, although it is less accentuated, almost exactly with the change in the inorganic phosphorus in the same period, and this analogy carries with it an importance that will be mentioned later. It will be observed here again that, while the p_H curve in cases before treatment is a gradually rising one, the elevation is more accentuated in those under treatment, while in those in which treatment has been completed, the curve is suddenly elevated to a pronounced degree in the third and fourth week.

Calcium Content.—The normal calcium content of the serum of infants and young children averages, according to Howland and Kramer,[7] between 10.5 and 11.5 mg., and according to de Wesselow,[8] who includes general grouping apparently of all ages, as between 9 and 11 mg. per hundred cubic centimeters. In the cases of petussis studied, the calcium determinations carried out in fifty-eight specimens of serum gave figures showing some variations, but averaging before treatment 10.5 mg. in thirty-four analyses. In only eight, or 23 per cent, was there more than 1 mg. less than the normal value as given by Howland and Kramer, and only two, or 5.3 per cent, of these eight were below the normal range according to de Wesselow's figures. This variation of 1 mg. in a few cases is not significant as an alteration because of possible error in determinations. Therefore, we do not consider the calcium content altered in any constant way in pertussis, although it is possible that slight changes may occur as the result of shifting of calcium in connection with the characteristic phosphorus and p_H alterations.

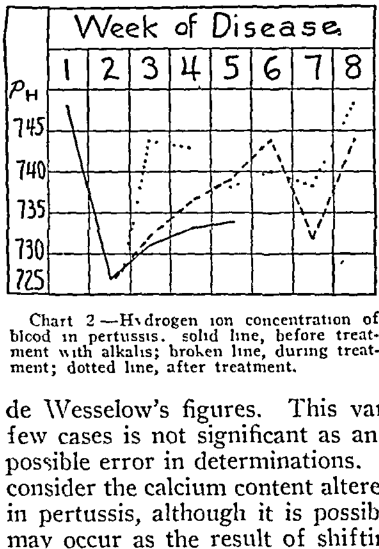

Chart 2.—Hydrogen ion concentration of blood in pertussis. solid line, before treatment with alkalis; broken line, during treatment; dotted line, after treatment.

SIGNIFICANCE OF BLOOD CHEMICAL CHANGES

As the carbon dioxide content of the plasma showed a normal range, and yet was associated with a lowering of the hydrogen ion concentration and of the inorganic phosphorus, we consider it proved that there occurs in pertussis an acidosis of an uncompensated type (type 6, Van Slyke classification),[9] which has as a cause the accumulation or increased concentration of free carbon dioxide in the blood.

Many of the symptoms so prominent in the clinical picture of pertussis may be very well correlated to conform with this point of view. The peculiar and unique character of the paroxysms surely interferes considerably with the ventilation of the lungs at this time, and is probably associated with increased alveolar air tension, an assumption warranted also by reason of the well nigh constant occurrence of some degree of parenchymatous emphysema in patients with pertussis. The alterations in the tracheobronchial tract, still poorly understood, may also enter potentially as factors. Vomiting and convulsions are frequent symptoms, and in many instances the gastric troubles occupy such a conspicuous place in the clinical syndrome that they have given rise to the description of a gastric form of the disease, in which gastric intolerance is a conspicuous symptom. It is our belief that the vomiting in the disease is a compensatory process which endeavors by elimination of very acid gastric contents to maintain the normal acid base balance.

Theoretically, if an acidosis of an uncompensatory type, as described, exists, the supplying of the organism with alkaline salts might restore the ratio between bicarbonate and free carbon dioxide. Practically this occurs.

In our cases, the hydrogen ion concentration of the blood has been changed to normal or to the alkaline side of normal (table 2) by the administration of various combinations of bicarbonate, calcium carbonate, and magnesium oxide. In such instances we have observed, accompanying the change in reaction of the blood, a rise of inorganic phosphorus. In cases in which the disease has been seen in the early paroxysmal stage, the remarkable fact was observed that under the administration of alkaline salts the inorganic phosphorus content of the blood may be elevated so quickly that the figure obtained before treatment is started may be doubled within one week. Thus, a reading of 2.6 mg. changes to 5.5 and again from 1.7 mg. to 4.3.

This change in the characteristic chemical values has been accompanied by pronounced clinical improvement, with remarkable and rapid amelioration of the distressing symptoms, so that vomiting would cease, on an average, in from four to five days and whooping in from eight to ten days, with occasional exceptions. The patient's general appearance showed corresponding improvement, and there was a gain in weight.[10]

In a small number of cases in which we had the opportunity of starting treatment in the late catarrhal stage, the disease was aborted before typical paroxysms were established, and this naturally brings up the thought of the possible prophylactic value of alkalis perhaps in conjunction with vaccine. In patients treated in the early and middle paroxysmal stage, the disease was quickly cured. It may be said, and this is a significant fact, that the cure bears no relation to the week of the disease when the treatment was begun, being as effective if not more so in the cases treated early as those treated late (table 2). We have not considered it advisable to use the treatment in bronchopneumonia complications, and instead have employed the mercury quartz lamp with good results. Our moderate and severe cases were treated by various combinations of alkaline powders—sodium bicarbonate, calcium carbonate and magnesium oxide. Mild cases were untreated. The alkalis used were selected mostly from an empiric standpoint, the original basis being the clinical effect of Sippy treatment for gastric ulcer in a patient[11] with severe pertussis and an ulcer of the stomach. Before the chemical study, the calcium was continued to conform to the possibility that the convulsions so frequent in pertussis might be similar to those of tetany and hence connected with a lowered calcium content of the blood. The results of our blood chemical study appear to be entirely against this assumption, and we feel it would probably be sufficient in treatment to use only sodium bicarbonate in adequate doses, in order to restore the acid base balance to normal. In many cases showing gastric intolerance, lime water may also be given with the feedings with benefit and if, as in neglected cases of severe pertussis, starvation has complicated the condition, glucose may be used in conjunction with the bicarbonate.[12]

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[7] Howland, John; and Kramer, Benjamin: Calcium and Phosphorus in the Relation to Rickets, Am. J. Dis. Child. **22**: 106 (Aug.) 1921.

[8] De Wesselow, O. L. V.: The Chemistry of the Blood in Clinical Medicine, London, 1924, p. 30.

[9] De Wesselow, O. L. V.: The Chemistry of the Blood in Clinical Medicine, p. 52.

[10] In routine treatment, it has been customary, at first, to start therapy by the administration of sodium bicarbonate in 30 grain (2 Gm.) dosage every half to one hour until from four to five doses have been given. Then the administration is begun of alkaline powders, mentioned in the previous paper, containing magnesium oxide, 15 grains (1 Gm.), with sodium bicarbonate, 15 grains, and calcium carbonate, 15 grains, with sodium bicarbonate, 15 grains, alternately each, three times daily given in milk, the powders being mixed with an equal amount of sugar and 1 drachm of milk (warm) and half a cup of milk added.

While the treatment proposed is, strictly speaking, apparently symptomatic, in that by adjusting an acid base unbalance it brings about changes in the organism which permit the return to a normal state, yet it probably is very intimately connected with the mechanism by which the termination of the vicious cycle accompanying the infection is brought about.

SUMMARY

A total of 682 blood chemical analyses performed in cases of pertussis have given the following results:

1. There is a diminution of the total inorganic phosphorus associated with a lowering of the hydrogen ion concentration of the blood, while the plasma bicarbonate remains within normal limits.

2. These changes occur early in the disease, appearing in the case of the inorganic phosphorus in the catarrhal stage.

3. Both alterations are well developed, especially the change in phosphorus, during the first few weeks of the paroxysms, and show a certain degree of parallelism in their course which signifies a close interrelation.

4. In moderate and severe cases treated with alkalis, the inorganic phosphorus rises steadily from the third week, while in untreated cases of the mild type, the rise does not begin until the sixth week. The same is true in a less decided way of a p_H value before, as compared to those during and after, treatment.

5. The diminution of inorganic phosphorus bears no relation to age, but only to the stage of the disease, and for reasons mentioned in the text has no underlying rachitic basis.

6. The calcium content, while exhibiting slight mobility, as the result, possibly, of shifting of calcium in connection with the characteristic phosphorus and p_H alterations, has no constant alterations of a distinct type.

7. These changes indicate an acidosis of an uncompensated type (type 6, Van Slyke), which has as a cause the accumulation or increased concentration of free carbon dioxide in the blood. This laboratory observation is easily correlated with several of the symptoms so prominent in pertussis—the paroxysms, the vomiting, parenchymatous emphysema and convulsions.

8. The vomiting of the disease may be a compensatory mechanism adopted by the body to eliminate acid in an attempt to maintain a normal acid base balance.

9. This contention of an uncompensated acidosis is further substantiated by the effects on the disease of alkali therapy.

10. Alkalis administered early appear usually to abort the disease, and associated with the cure is a rapid rise of inorganic phosphorus and a change in p_H of the blood, while, if given late, cure supervenes in a relatively short period.

CONCLUSIONS

There occurs in pertussis an uncompensated acidosis, which is intimately connected with the pathogenesis of the paroxysms.

If the acid base unbalance is corrected, the clinical symptoms are quickly ameliorated, and the organism returns to normal.

USE OF IODIZED OIL IN DIAGNOSIS AND TREATMENT OF BRONCHIAL AFFECTIONS

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Iodized oil is used as an opaque medium in the roentgenographic study of body cavities. It was first employed by Sicard and Forestier in 1921 as an aid in locating and demonstrating obstructions of the spinal canal, and later was used successfully by the originators in exploring dilatations, fistulous tracts and cavities of the bronchial tree and the pulmonary tissues.

Since October, 1924, we have employed iodized oil in the form of bronchial injections as a diagnostic and therapeutic agent. This article is based on the results of this study and also the writings of Sicard and Forestier, Sergent and Cottenot, Nigoul-Foussal, Ballon, Archibald and others.

The iodized oil we have employed is the chemical compound of 40 per cent metallic iodine with oil of poppy seeds described and used by Forestier. The oil and iodine are so closely combined that the ordinary starch test fails to reveal free iodine.

Iodized oil is of clear amber color, is neutral in reaction, has a specific gravity of 1.350, and is insoluble in water or alcohol. The iodine may be liberated by the alkaline carbonates of the saliva and intestinal secretions, but is not affected by the gastric acidity. It becomes brown when exposed to the action of light, air, humidity and high temperature, because of the liberation of iodine. The high iodine content of the compound renders it opaque to the roentgen rays. The value of the oil as a diagnostic agent is due to its resistance to the roentgen ray and to its tolerance by the bronchial mucous membrane. The therapeutic advantages are due to the slow rate of absorption of the contained iodine without harmful effect on the patient. Iodism does not occur unless the oil is swallowed and subjected to the action of the intestinal secretions. The slow liberation of iodine prevents the danger of pulmonary congestion, which sometimes follows the use of iodides. It must not be used, however, when brown, on account of the caustic effect of free iodine.

There are four methods of introducing iodized oil into the bronchial tree: namely, the supraglottic, the transglottic, the subglottic and the bronchoscopic. In the first and second procedures, a curved cannula is used. In the subglottic method, a hollow curved needle is passed through the cricothyroid membrane into the trachea, while in the fourth the oil is introduced through the bronchoscope.

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[11] Regan, J. C.: Report of a Case of Pertussis Complicating a Gastric Ulcer, M. J. & Record **120**: 381 (Oct. 15) 1924.

[12] A comparative study is now being made of the effect of irradiation by the mercury quartz lamp on the chemical change of the blood and on the clinical course of the disease.

The following general principles should be observed in all methods:

1. The use of discolored oil should be avoided.
2. Warm oil should be used, as it flows more freely and lessens the tendency toward cough.
3. Solutions for anesthesia should be warmed.
4. Roentgenographic exposures should be made as soon after injection as possible, and cough should be prevented by any unnecessary movements of the patient.

METHODS OF INTRODUCTION

Supraglottic.—In some patients the injection can be made without local anesthesia, but a better procedure is to swab the pharynx, soft palate (velum) and the base of the tongue with a 10 per cent cocaine solution. After an interval of three minutes, 1 cc. of warmed 1 per cent cocaine solution should be dropped into the glottis with the aid of a laryngeal mirror, syringe and curved cannula. Five minutes later the injection can be made. The patient sits facing the operator and slightly inclined toward the side to be injected, and is instructed to pull the tongue forward and breathe normally throughout this stage of the operation. A 20 cc. syringe filled with warmed iodized oil is firmly attached to a 6 inch cannula having its distal end curved to a right angle or less. With the aid of a laryngeal mirror, the tip of the cannula is introduced behind the base of the tongue held over the glottis, and the oil is slowly expelled from the syringe into the larynx. We have found that it is best to give no instructions to the patient regarding the manner of breathing, except in case of threatened cough, when a deep inspiration is advised.

Transglottic.—This method of injection is made with the tip of the cannula passed through the glottis into the trachea. The pharynx, velum and base of the tongue are anesthetized as in the supraglottic method, but for the larynx and trachea the quantity of 1 per cent cocaine is increased to 1 to 3 cc., on account of the deeper degree of anesthesia required.

Subglottic.—In this method, devised by Rosenthal, any difficulty in passing the larynx is avoided, and the oil is injected directly into the trachea. After anesthesia of the skin and subjacent tissue, a hollow curved needle attached to a metal guard is pushed through the cricothyroid membrane and into the lumen of the trachea. The position of the needle should be verified by attaching a syringe and aspirating, the withdrawal of air or mucus showing the needle to be in the trachea. From 1 to 2 cc. of warmed 1 per cent cocaine solution is then slowly injected through the needle, in order to anesthetize the mucosa of the trachea and bronchi of the desired area. The patient may cough for a short time. After from three to five minutes the iodized oil should be injected by means of a metal syringe firmly connected with the needle by a piece of strong rubber tubing. The tubing allows a certain motility of the syringe and must be strong to withstand the pressure necessary to force the oil through the needle.

POSITION OF PATIENT

The patient's position during injection is important as the distribution of the oil is determined by gravitation and the aspirating power of the lung. If one observes the progress of the oil on a fluoroscopic screen during injection, the greater portion may be seen to follow the most dependent bronchial trunks. For this reason the inferior lobes are most easily injected with the patient sitting. The oil is directed to the right or left bronchus by inclining the patient slightly in a corresponding direction during the injection. The middle and upper lobes can be injected only when the patient is lying, and with this position the supraglottic method is still effective, but the transglottic, the subglottic and the bronchoscopic may be used. To fill the apical bronchi, the patient should be placed on a tilting table with the desired side downward. A few seconds after the injection, the head of the table is lowered for a minute to permit the oil to flow into the upper lobe.

A useful exploration requires from 10 to 20 cc. of oil, and in the presence of large bronchial dilatations the lung will accept 40 cc. without evidence of distress. When injecting more than 20 cc. of oil, the transglottic, subglottic or bronchoscopic method is preferable.

COMMENT ON METHODS

In the application of any method, the patient should be told what is being attempted, and assurance given. In this way cooperation is obtained, time is saved, less anesthesia is used, and better results are accomplished.

The supraglottic method without anesthesia will seldom be successful with patients who are apprehensive or in whom the larynx and trachea are irritable from previous cough of long standing. Even with anesthesia, it is rejected by Forestier [1] as being rarely satisfactory. On the other hand, it is upheld by Claisse and Caussade.[2] In our experience, the supraglottic method with local anesthesia has been successful in the great majority of cases, and in the absence of unusual laryngeal irritability it is always tried first. The method, however, is more satisfactory in the injection of areas lying at or below the level of the lung roots, as the oil follows the path of least resistance.

Prior to the bronchial injection, the patient should have a physical examination of the chest and a roentgenologic study. When the examination is repeated after the injection, considerable information may be obtained regarding bronchial irregularities, the size, shape and position of the trachea, and a detailed knowledge of the contents of the lung root zone not otherwise revealed by any other diagnostic procedure. The roentgen-ray study should include oblique stereoroentgenograms in addition to the ordinary postero-anterior exposures. The trachea and its bifurcation are thereby clearly outlined, and images which otherwise would remain obscured by the cardiac and diaphragmatic densities are definitely exposed.

It is necessary to make the postoperative roentgen-ray study immediately following the injection, with as little disturbance of the patient as possible, for the reason that with the return of the cough reflex the larger bronchi may become partially emptied and valuable information be lost. Hence, in a patient showing unusual irritability of the trachea, it may be necessary to abandon the technic and make both the injection and the exposures on the roentgen-ray table.

The practitioner intending to use iodized oil in the diagnosis of pathologic conditions of the lungs should first practice injections in normal subjects, and so learn to recognize the shadows characteristic of all parts of the uninjured bronchial tree.

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[1] Forestier, Jacques: Iodized Oil in Radiologic Practice, Paris méd. 1: 377 (April 26) 1924.

[2] Claisse, P., and Serrand, J.: Bull. et mém. Soc. méd. d. hôp. de Paris 46: 579 (April 7) 1922.

In the normal (fig. 1), the trachea and the large bronchi are shown in outline by the oil, which clings to their walls, but the smaller bronchi appear as continuous solid lines, which diminish in width as they approach the thoracic wall. Surrounding the bronchi, the filled alveoli are represented by a coarse stippling. After the patient has coughed, the hitherto unbroken line of the bronchial shadow becomes interrupted, but the alveolar shadows remain. This broken bronchial line can also be caused by the use of an insufficient quantity of oil. The alveolar shadows remain unchanged for about twenty-four hours and then gradually disappear during the ensuing ten days. Forestier [3] says that the urinary elimination of iodine passes its maximum after the third day but persists to the amount of several milligrams daily, as long as there are pulmonary shadows.

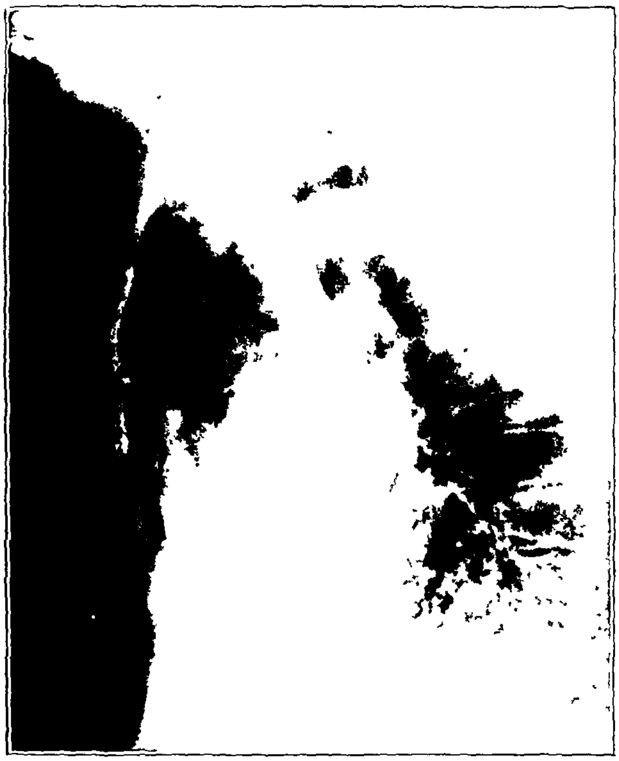

Fig 1.—Outline of the trachea and its relationship to the arch of the aorta.

PATHOLOGIC PICTURE

The sharply defined outline of the trachea and its bifurcating branches enables one easily to recognize the exact site of conditions such as deviation or compression. It is unwise to dismiss the possibility of an anteroposterior compression of the trachea without the study of films taken in the oblique or lateral position (fig. 1).

Iodized oil, however, finds its greatest usefulness in the visualizing of bronchial dilatations and particularly in those earlier cases wherein cough is the chief or only symptom, and both physical examination and the roentgen ray fail to locate the focus. After injection, these early dilatations are shown as small, pouch-like shadows. Those of longer standing (more advanced) may be cylindric or may resemble a hanging bunch of grapes (fig. 2), drops of tar or even the fingers of a glove, as described by Sergent and Cottenot.[4] These abnormal shadows stand out in excellent contrast with the regular and more delicate outlines of the surrounding normal area.

The presence of fragmented bronchial lines in films made before the patient begins to cough may be considered as evidence of the presence of abnormal bronchial secretions, provided one can exclude an insufficient quantity of oil as a cause.

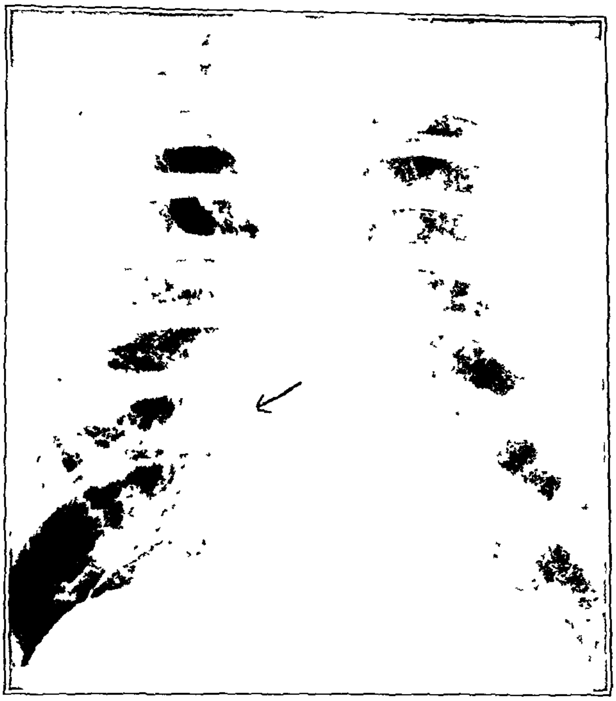

Fig 2.—"Bunch of grapes" bronchiectatic area, revealed by the injection of iodized oil.

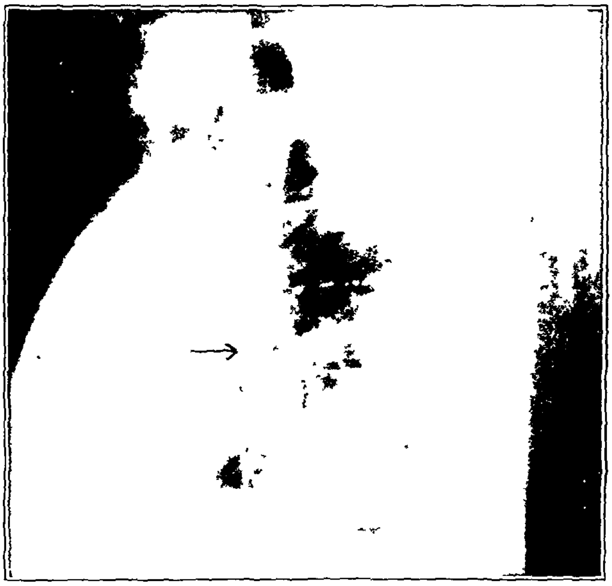

Fig 3.—A well visualized lung abscess in the left thorax caused by a long embedded foreign body, which was recently removed from the left bronchus.

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[3] Sicard, J. A., and Forestier, Jacques: J. de méd. franc. Paris **13**: 3-9, 1924.

[4] Sergent, Emile, and Cottenot, P.: Presse méd. **33**: 500 (April 18) 1925.

It is evident, then, that any pulmonary cavity can be shown roentgenographically if its bronchial outlet allows the inflow of iodized oil. We have not found occasion for injecting a tuberculous pulmonary cavity, but we have succeeded in locating the cavity of a foreign body abscess which, on the regular film, remained hidden (fig. 3.) This fact suggests that this procedure with serial oblique films might be a valuable aid in thoracic surgery. In the exploration of thoracic fistulas, the fluidity of iodized oil renders it superior to bismuth paste. Archibald[5] has drawn attention to the value of this oil in demonstrating the persistence of tuberculous cavities and bronchial dilatations after thoracoplastic operations.

We find the injection of iodized oil of great value in patients presenting symptoms of persistent cough, occasional fever and expectoration free from acid fast bacilli. These patients complain of exhaustion and are underweight. Their cases are frequently diagnosed as tuberculosis, and the physical examination, laboratory findings, and roentgenologic study give no definite information as to etiology. The following cases will illustrate the point:

M. C, a man, aged 36, 5 feet 6 inches (168 cm.) tall, weighing 131 pounds (59 Kg.), with an average weight of 140 pounds (64 Kg.), was pale, was nervous, and tired easily. A chronic cough persisted for eight years, following influenza. The expectoration was scanty and revealed no acid fast bacilli or elastic tissue. At times the cough was increased in severity, and some slight degree of fever was present. The patient complained of a heavy dull pain under the middle of the sternum. He had been told that he had tuberculosis. After a careful physical examination, laboratory test and roentgen-ray study of the chest, no abnormalities were found, except rhonchi over the right lung root zone in the back. Iodized oil was injected into the right root and base, and a distinct bronchiectatic dilatation (fig. 2) was shown at the edge of the right lung root density. The patient was given an injection of 10 cc., once a week for six weeks and, eight months later, he reported that since then he had had no cough or expectoration and felt well. The supraglottic method was used, and no local anesthesia was administered after the first injection.

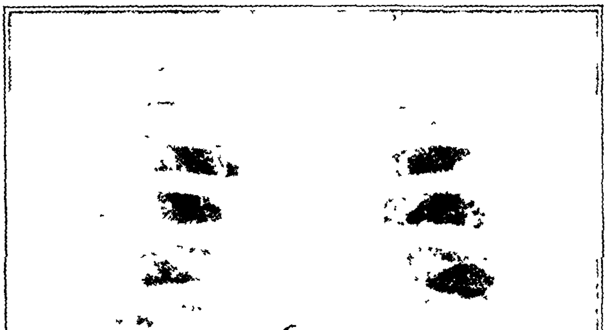

Fig 4.—Large irregular bronchiectasis, not discovered until after the injection of iodized oil.

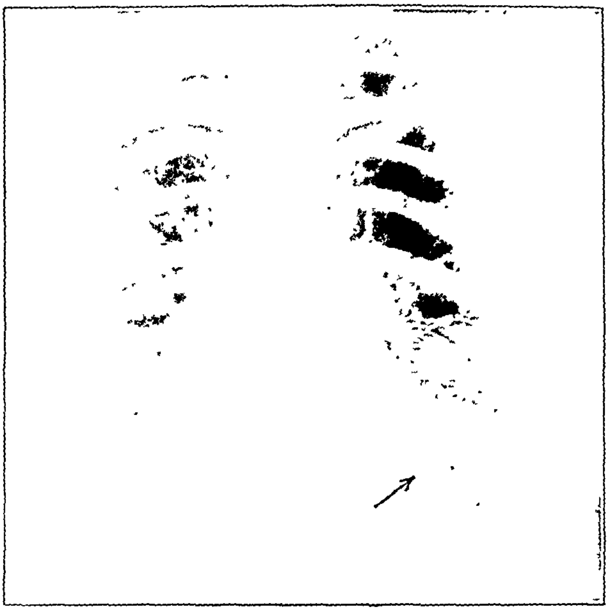

Fig 5.—Cylindric type of bronchiectasis, revealed after the introduction of 15 cc. of iodized oil into the left lower bronchial tree.

M K., a woman, aged 52, had had chronic cough, associated with about 10 to 20 cc. of purulent but odorless expectoration daily, following an acute bronchitis five years previously. No acid fast bacilli or elastic tissue was found (pig inoculation). There was no clubbing of the fingers, no loss of weight or history of fever. The patient complained of fatigue and of the annoying cough and expectoration. Physical examination and roentgenologic studies of the chest showed no abnormalities, except that the right root shadows were somewhat prominent. The nose and throat were normal. Twenty cc. of iodized oil was injected into the right lung root zone by the supraglottic method. A very distinct irregular bronchiectatic dilatation (fig 4) was revealed in the inner right lung root zone, over which grouped râles were found, the result of the retention of the oil. This area was in all probability the seat of the bronchial affection; lack of drainage caused a persistent multiplication and accumulation of bacteria. Fourteen injections of 12 cc. of iodized oil were given this patient at intervals of not less than five days, the object in treatment being completely to fill the small bronchial dilatations. Five months after the last injection, the patient reported much less expectoration and only a slight cough.

M. P., a woman, aged 36, had had a cough since she was 18 years of age, following a severe attack of acute bronchitis. For the past twelve years, the cough had been loose, productive and became worse on lying down. The sputum was yellow, offensive and from 30 to 40 cc. in quantity daily; no acid fast bacilli or elastic tissue was found (pig inoculation). The fingers were definitely clubbed. The nutrition was good. There were occasional attacks of fever. For the past three years, the condition had been growing worse. Scattered rhonchi were heard on physical examination of the chest. Anterior and oblique stereoroentgenograms showed no abnormal densities. The nose and throat were normal. Fifteen cc. of oil was injected into the right lung root and descending bronchial tree, with no signs of dilatation. Later, the left root and descending bronchial areas were injected, and a number of cylindric bronchial dilatations were found (fig. 5). Sixteen injections of 10 cc. each were given over a period of eleven weeks. Four months after treatment, the patient showed a marked improvement. The sputum had greatly decreased in amount and was odorless. A slight cough remained, but the patient reported that she has never felt so well in years.

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[5] Archibald, Edward: Canad. M. A. J. 15:1000 (Oct.) 1925.

CONCLUSIONS

1. By the injections of iodized oil into the bronchial tree, small bronchiectatic dilatations in and around the roots of the lungs and cylindric fusiform enlargements of the descending branches may be revealed in many cases of chronic cough, which a previous exhaustive examination of the chest failed to show.
2. The entire bronchial tree cannot be visualized at one injection. Small sections should be injected at intervals until any abnormality is discovered or the entire field is studied.
3. The nose and throat should be studied in all cases. Bronchiectatic cavities occur as the result of chronic upper respiratory infections, and may continue to cause cough after the tonsils are removed or the sinuses drained.
4. In the majority of cases, we feel that the supraglottic method of injecting the lung roots and descending branches of the bronchial tree takes less time, less anesthesia, is less worry to the patient and gives results quite as satisfactory as other methods.
5. It is not necessary to use extensive local anesthesia in the majority of cases.
6. In more than 600 bronchial injections of iodized oil, we have seen no ill effects in our patients. No cases of iodism occurred.

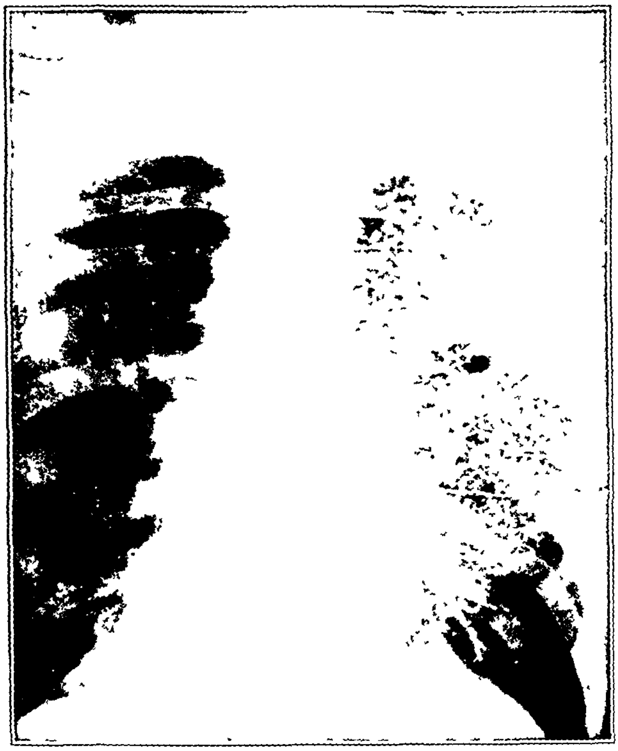


Fig 6.—Result of an excessive amount of iodized oil obliterating the bronchial markings. Injection by the subglottic method.

7. The technic is not difficult. It requires no special training.
8. Negative results of an injection are no diagnostic proof that bronchiectatic dilatations do not exist.
9. The therapeutic use of iodine is not new but this compound of iodized oil is a new combination and, as a result of the slow liberation of the iodine in the bronchial tree, acts as an ideal treatment in chronic affections of the lower respiratory tract.

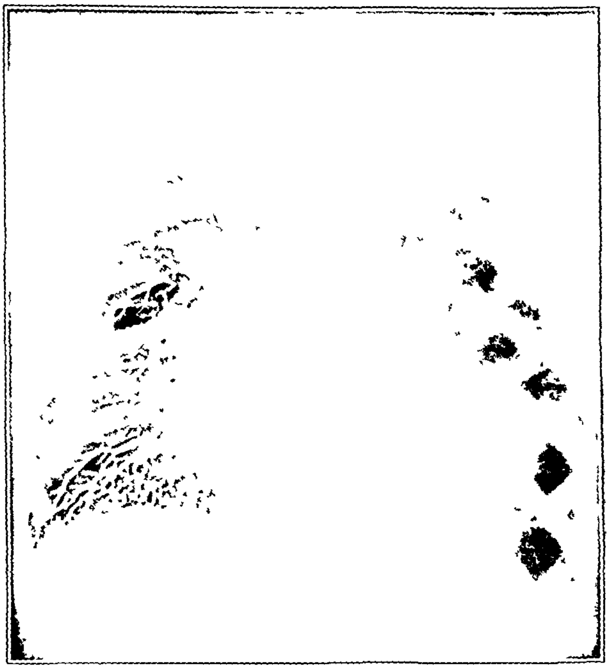


Fig 7.—An evenly distributed injection of 25 cc of iodized oil in the right bronchial tree, by the transglottic method duplicated later by supraglottic method.

10. In acute affections or pulmonary tuberculosis, we hesitate to inject iodized oil for either diagnostic or therapeutic purposes.

OMENTOPEXY IN CIRRHOSIS OF THE LIVER

REPORT OF CASE

FREDERICK W. LESTER, M.D.
SENECA FALLS, N. Y.

Cases of atrophic cirrhosis of the liver are still sufficiently common to attract the surgeon's attention for the relief of the ascites. These patients with various complicated lesions, and with a shaky cardiovasculorenal tripod, do not make desirable operative risks, and careful judgment is advisable in their selection.

The temptation to relieve the accumulations of fluid in the abdomen by repeated paracentesis is one to which the physician frequently succumbs. That such treatment is without substantial avail has long been known.

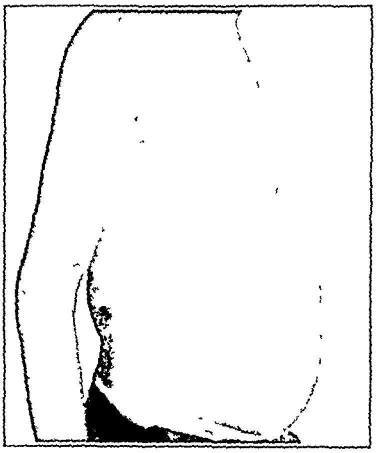
Binnie, quoting Wynter, says, "The price paid for the relief of the distention is the sacrifice of so much nutrient fluid," and Osler confirms this, stating that "the average duration of life in atrophic cirrhosis, after the commencement of tapping, is about fourteen weeks."

Omentopexy, or epiplopexy, known as Talma's operation, also termed Morrison's operation and Narath's operation, is a surgical procedure devised on a truly scientific basis, with the object of attempting to restore, at a single stroke, the normal function in an organ (the liver) crippled by disease. That this restoration actually does take place as the result of omentopexy, even though it is deferred for a period of weeks, there can be no doubt.

In the chronic ascites that results from the interference with the portal blood circulation in advanced hepatic cirrhosis, omentopexy, by using the omentum in a variety of methods, as a carrier or go-between, attempts to effect an anastomosis between the visceral blood vessels and the peripheral circulation with the result, if successful, of not only relieving the ascites permanently, but also benefiting indirectly the other chief function of the liver, that of bile production.

Keen [1] mentions some of the older writers advocating surgical methods in dealing with ascites; for instance, Litthauer, Comer and Pinches, Sir Spencer Wells, Hearn and Péan. Their writings, with those of Talma, Morrison, Rubin and Narath, make up the rather meager literature of a generation ago. They are entitled to all honor as being the originators of omentopexy and the pioneers in the surgery of the omentum.

A search of the literature of the last few years finds numerous references to the surgery of the liver and omentum, but rather scant mention of the use of omentopexy in hepatic cirrhosis. Bremer,[2] Weber,[3] Loeper and Turpin,[4] Fiessinger and Brodin,[5] Tagliavacche,[6] Sternberg,[7] and Rowntree,[8] during the last two years, have described some of the phenomena attending the presence of ascites and the various methods of its treatment, both medical and surgical, including omentopexy. In these instructive papers may be found reports of the successful use of omentopexy in patients from the age of 16 upward. General agreement seems to place the rate of mortality for omentopexy at from 5 to 20 per cent. No long series of cases were reported.



Appearance of abdomen after omentopexy, showing "omental hernia" in epigastric region.

In the case described below, thirty-two months after operation, the result is so satisfactory that I feel greatly interested in this method of treatment. It may be of interest to others.

REPORT OF CASE

J. M., a white man, aged 67, had suffered for more than a year, with "stomach trouble," including nausea and indigestion, which began gradually. The family history was unimportant and the personal history presented nothing of special note, except that the patient had used strong chewing and smoking tobacco for many years and whisky, sometimes a dozen drinks a day, for the past two or three years. April 9, 1923, he had hemorrhoids and hydrocele of the right tunica vaginalis testis; there was an accumulation of fluid in the abdomen. Liver dulness was present, and the liver was palpable 2 inches (5 cm.) below the costal margin. The spleen was not palpable but showed an increased area of dulness. The heart presented a high pitched systolic murmur at the apex, with increase in size of the left ventricle. Rectal examination showed a prostate of normal size, with no tenderness. The hydrocele was tapped, and 400 cc. of fluid evacuated; one hemorrhoid was removed by clamp and cautery. May 15, the abdomen was full of fluid, distended and large.

Laboratory tests revealed that the specific gravity of the urine was 1.020, with a trace of albumin and a few light granular casts, but no sugar. The Wassermann reaction was negative to both antigens. Tallqvist's test gave 65 per cent of hemoglobin. No tuberculosis foci were found in the general examination. The stools were light brown.

The phenolsulphonphthalein test showed considerable reduction in the excretion of the dye, about 28 per cent being excreted in the first two hours.

The patient was admitted to the Memorial Hospital, Waterloo, N. Y., May 15, 1923. The working diagnosis was ascites from cirrhosis of the liver, chronic interstitial nephritis and mitral regurgitation, with hypertrophy of the left ventricle of the heart.

Operation was done, May 16, 1923, the Narath[9] technic being used. After the abdomen was opened through the right rectus muscle above the umbilicus, and all the fluid that could be secured, about 6,000 cc., was evacuated and sponged away, the omentum was brought out of the incision; it was rather short, not over 4 or 5 inches (10 to 13 cm.) long and nonadherent. The liver was then palpated and a general visceral examination made. No special abnormalities were noticed, except that the liver was rather stiff and indented on its external surface at numerous points. A pocket was then made at the right side of the incision by raising the skin and superficial fascia. Into this pocket was inserted a portion of the omentum, about three fourths of the total bulk, which was securely fastened there by means of several chromic catgut sutures. The portion of omentum, thus brought outside the abdomen, was then fastened around its base to the edges of the opening in the peritoneum through which it came, and the abdomen closed in layers without drainage, four or five silkworm interrupted sutures being used through the skin and fascia as supporting sutures. The time of operation was forty-five minutes; ether was given by the drop method.

The patient's immediate postoperative condition showed no serious effects, a little yellow fluid being vomited.

May 17, the abdomen was tympanitic.

May 18, gas came freely through the rectal tip, and the abdomen was softer. The temperature was 99.6; the pulse was 96.

May 23, drainage from the wound began and amounted to about 300 or 400 cc. daily of clear serous fluid.

May 26, the serous drainage changed to a bright green, and the amount became very much less.

May 28, drainage had stopped completely.

May 30, the supporting sutures were removed.

June 2, the patient was sent to his home.

June 9, fluid began to reaccumulate in the abdomen.

June 16, 4,000 cc. of fluid was obtained by paracentesis.

June 28, the fluid began to return.

July 9, the fluid was present but not increasing.

July 23, it was receding.

August 1, the fluid was completely gone.

Jan. 1, 1926, examination showed an abdomen with an "omental hernia" in the epigastric region, which caused the patient no discomfort. He is able to work from six to eight hours daily at his trade. The right hydrocele requires tapping about once in six months. The liver showed no increase in size. Hemorrhoids were not present. The appetite and digestion were good.

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[1] Keen's Surgery **4**: 630.

[2] Bremer, K: Epiplopexy for Biliary Cirrhosis, South African M. Rec., October, 1924, p 477

[3] Weber, F. P: Hepatic Cirrhosis and Question of Operative Treatment of Chronic Ascites, May, 1924, Abs Int. Survey Surg., p. 437.

[4] Loeper, M, and Turpin, R.: Inhibiting or Retarding Action of Abdominal Effusions on Induced Glycosuria in Cirrhosis with Ascites, Progrès méd, May 3, 1924, p 269.

[5] Fiessinger, N, and Brodin, P.: Ascites and Jaundice in Cirrhosis of the Liver, Presse méd **32**: 121 (Feb. 9) 1924

[6] Tagliavacche, N: Ascites from Cirrhosis of the Liver, Prensa med. argent., June 10, 1925

[7] Sternberg, H.: Cirrhosis of Liver, Vienna Letter, J. A. M. A. **85**: 1573 (Nov. 15) 1925.

[8] Rowntree, L. G; Keith, N. M., and Barrier, C. W.: Novasurol in the Treatment of Ascites in Hepatic Disease, J. A. M. A. **85**: 1187 (Oct. 17) 1925.

[9] Narath, P.: Operative Treatment of Hepatic Cirrhosis, Zentralbl. f. Chir., May, 1904.

COMMENT

1. The stormy convalescence, with no evidence of circulatory balance in the liver for from six to eight weeks, indicated that the anastomosis was, for that length of time, ineffective.
2. There were late good and permanent effects of the anastomosis.
3. No injurious effects resulted from diverting so large a part of the omentum from its usual location.

15 Cayuga Street.

PAROXYSMAL TACHYCARDIA ASSOCIATED WITH FOCAL MYOCARDITIS *

RALPH H. MAJOR, M.D.
AND
H. R. WAHL, M.D.
KANSAS CITY, KAN.

Tachycardia of ventricular origin is an uncommon condition, and the number of reported cases is comparatively small. Butterfield and Hunt,[1] Cohn,[2] Gallavardin,[3] Hart,[4] Lewis,[5] Marvin and White,[6] Robinson and Herrmann,[7] Scott,[8] Vaughan,[9] and Willius[10] have reported examples of such tachycardias. Scott, who reviewed the subject in 1922, doubted whether certain cases reported as ventricular tachycardia were correctly diagnosed, and states that, of twenty cases reported up to that time, the evidence is not convincing in more than half. Wolferth and McMillan,[11] in 1923, collected reports of twenty-two cases, which they regarded as examples of true ventricular paroxysmal tachycardia.

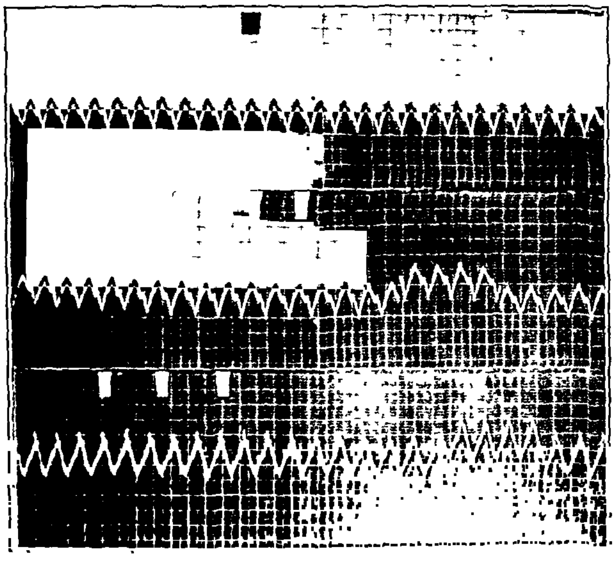

Fig. 1.—Condition, May 28, 1925: type of electrocardiogram usually associated with ventricular paroxysmal tachycardia

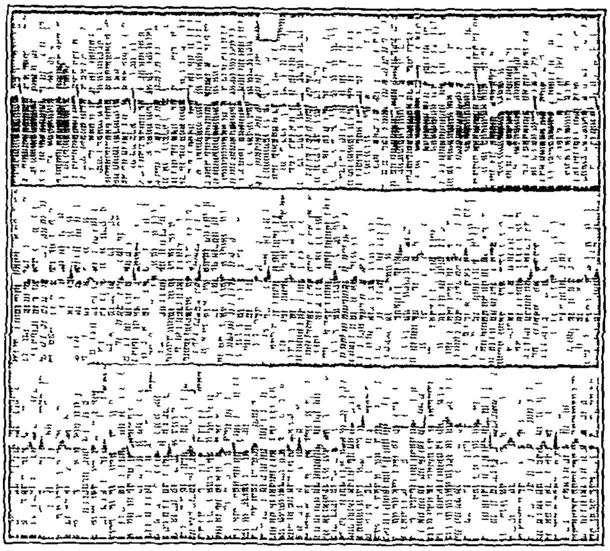

Fig 2—Condition, June 15, 1925: inversion of T wave in the first lead and distinct notching of R wave in the second lead.

Lewis has pointed out that the ventricular type of electrocardiogram is not necessarily due to paroxysmal tachycardia of ventricular origin, since a similar picture is produced when the excitation wave takes an abnormal course in the ventricle. One case of Marvin and White's probably belongs to this category, since it gave electrocardiograms of the ventricular type, although it was proved to be a tachycardia of auricular origin.

A patient whom we have recently studied showed a paroxysmal tachycardia of considerable interest from the standpoint of its causation and the type of electrocardiogram shown.

REPORT OF CASE

A man, aged 25, who had had two attacks of rapid beating of the heart since the age of 12, the last attack occurring six years previously, had suffered from infected tonsils for several years, and during the past eighteen months had known of the presence of several badly infected teeth.

The patient was admitted to the Bell Memorial Hospital, May 28, 1925, suffering from an attack of paroxysmal tachycardia, which came on without warning. Electrocardiographic tracings made during this attack are shown in figure 1. These tracings are of the type that is usually associated with a tachycardia of ventricular origin, although, as mentioned, the same type is occasionally encountered in certain tachycardias of auricular origin. We were unfortunate in not obtaining an electrocardiogram of either the beginning or the ending of the attack, which is a necessary criterion for establishing the positive diagnosis of ventricular paroxysmal tachycardia. The pulse rate varied from 200 to 240 per minute. The patient was given two-thirds grain (0.04 Gm.) of pantopium hydrochloricum (pantopon) by mouth and 0.025 mg. of ouabain hypodermically. Three hours after this medication, the pulse rate suddenly fell to 100, and the patient was more comfortable. The next morning the pulse was 88, and he was dismissed from the hospital. June 15, 1925, electrocardiographic tracings were taken, which showed slight notching of the R wave in both the first and second leads and inversion of the T wave in the third lead. There were no extrasystoles seen (fig. 2).

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* F [illegible] internal medicine and pathology, University of Ka[illegible]

[1] [illegible] Hunt, G H: Observations on Paroxysmal Tachycardia, Quart. J. Med. 7: 209, 1913 1914

[2] Cohn, A. E: *The Present Status of the* Electrocardiographic Method, Am. J. M. Sc. **151**: 529 (April) 1916

[3] Gallavardin, L: Extrasystole ventriculaire a paroxysmes ventriculaires prolongés, Arch. d. mal du cœur **15**: 298 (May) 1922

[4] Hart, T. S: Paroxysmal Tachycardia, Heart **4**: 128, 1912

[5] Lewis, Thomas: The Mechanism of the Heart Beat, London, Shaw and Sons, 1920, p. 259.

[6] Marvin, H., and White, P. D: Observations on Paroxysms of Tachycardia, Arch. Int. Med. **29**: 403 (April) 1922

[7] Robinson, G. C, and Herrmann, G R: Paroxysmal Tachycardia of Ventricular Origin and Its Relation to Coronary Occlusion, Heart **8**: 59 (Feb) 1921.

[8] Scott, R. W.: *Observations on a Case of Ventricular* Tachycardia with Retrograde Conduction, Heart **9**: 297 (Dec) 1922

[9] Vaughan, W. T.: A Study of Paroxysmal Tachycardia with Especial Reference to Tachycardia of Ventricular Origin, Arch Int. Med **21**: 381 (March) 1918.

[10] Willius, F A: Clinical Electrocardiography, Philadelphia, W. B Saunders Company, 1922, p. 88

[11] Wolferth, C. C, and McMillan, T. M: Paroxysmal Ventricular Tachycardia, Arch. Int. Med **31**: 184 (Feb) 1923.

At the time of discharge from the hospital, the patient was advised to have some dental work carried out, and during the summer several infected teeth were removed. The culture from these teeth showed an anhemolytic streptococcus, which was studied by Dr. R. L. Haden, who found that it showed a tendency to localize in the myocardium when injected into rabbits. The patient had a recurrence of tachycardia, Sept. 23, 1925, and at that time received 0.025 mg. of ouabain hypodermically, the injection being followed by a cessation of the attack. Five hours later another attack came on, and the patient died within three minutes of its onset. He was observed in this attack by a physician, who stated that at the time of death there was a marked quivering over the precordium. We did not see the patient during this attack, but the description was suggestive of death from ventricular fibrillation.

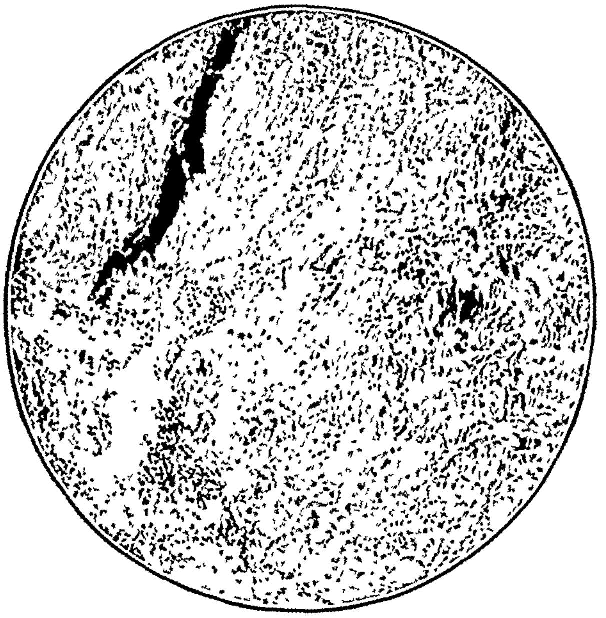

Fig 3.—A section through the left auricle, showing numerous collections of polymorphonuclear leukocytes and lymphocytes, slightly reduced from a photomicrograph with a magnification of 120 diameters.

The necropsy was limited to an examination of the heart. It weighed 335 Gm., was very flabby, and on the anterior surface there were several opaque patches, the evidence of old chronic pericarditis. The heart valves were normal in appearance; the base of the aorta showed numerous small yellow atheromatous plaques, measuring from 2 to 4 mm. in diameter. The coronary arteries showed grossly no sclerosis. A large number of sections were made through the walls of both auricles, the interventricular septum, and both ventricles. The sections through the left auricle showed areas containing foci of polymorphonuclear leukocytes, with collections of mononuclear cells and eosinophils (fig. 3). A similar picture was found in the sections through the right auricle, the left ventricle and the interventricular septum, including the bundle of His. There was a large amount of degeneration of the cardiac muscle fibers in all sections. One section through the left ventricle showed thickening and hyaline degeneration of the walls of the blood vessels and numerous patches of fibrosis in the myocardium. A section through the left coronary artery showed thickening of the intima, with vacuolar change in some of the cells. There were also some diffuse accumulations of mononuclear and polymorphonuclear leukocytes involving the inner portion of the media and intima. A section through the left coronary vein showed a small branch filled with pus cells.

The anatomic diagnosis was: acute and chronic myocarditis of the focal type; parenchymatous degeneration of the myocardium; aortic intimitis; early focal arteritis of the coronary arteries, and chronic pericarditis.

The evidence in this case favors the diagnosis of ventricular tachycardia, although this cannot be positively asserted. The association of the focal infection of the tonsils and teeth with foci of infection in the myocardium is very significant. We are probably dealing here with a tachycardia due to myocarditis, which was the result of the streptococcic focal infection from which the patient suffered. It is of extreme interest that the patient showed a definite early arteritis of the coronary arteries, apparently due to the same cause. He had atheromatous plaques on the aorta, which were far more numerous than would be expected in a man of his age. These findings bring up the question of the relationship between focal infection and arterial lesions, which have not been regarded by many observers as being entirely degenerative in their origin.

Very few necropsy reports on patients suffering from paroxysmal ventricular tachycardia have been reported. Robinson and Herrmann describe a thrombosis of the anterior descending branch of the left coronary artery in one of their cases, and Butterfield and Hunt found fibrosis of two thirds of the interventricular tissue in one patient at necropsy. Willius states that four of his patients gave definite histories of previous infection with the streptococcus group and that in one fatal case marked atheroma of the left coronary artery was found. In our patient we have, we feel, definite evidence of the rôle that streptococcic focal infection may play in cardiac and arterial changes.

Clinical Notes, Suggestions, and New Instruments

CUTIS VERTICIS GYRATA *

Raymond J. Sisson, M.D., Detroit

Cutis verticis gyrata is a skin condition of rare frequency characterized by hypertrophy and looseness of the skin, with a tendency to hang in folds. The literature referable to it is very meager. I report this case because of its infrequency and of a glandular derangement, not previously observed, which is present.

CLINICAL HISTORY

M. C., a man, aged 29, with a dark complexion, seen, Nov. 25, 1924, complained of thickness of the upper eyelids. Since childhood the fingers and toes had been large. An "eczema" of the scalp five years ago yielded promptly to treatment. The onset of the present illness occurred five years ago. The scalp was first affected and the condition gradually spread over the forehead and eyelids. The weight of the lids was so great that the patient had considerable difficulty working.

Vision in both eyes was 20/30. A marked mechanical ptosis with thickness of both upper lids was present. There was no other ocular pathologic change. The skin of the forehead and scalp was markedly thickened and thrown into transverse folds and furrows. Much oily secretion was present on the skin of the forehead and scalp. The hair was coarse and oily. There was typical enlargement of the terminal phalanges.

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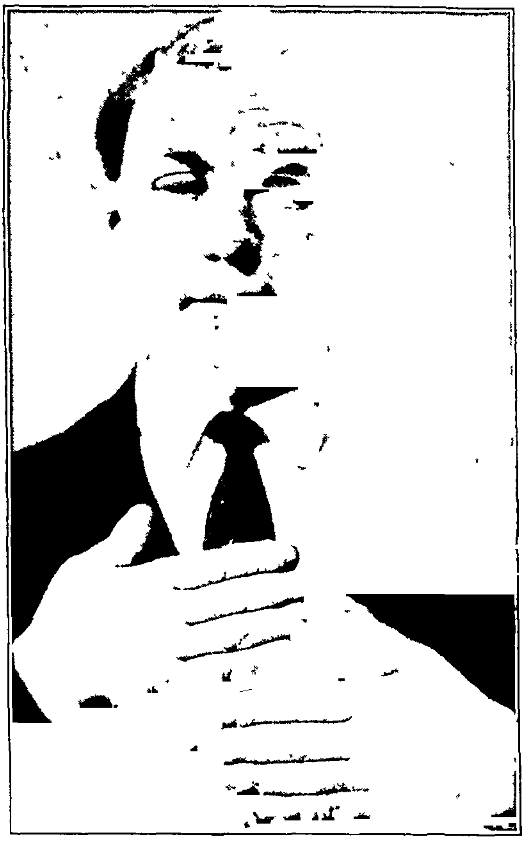
* From the Massachusetts Eye and Ear Infirmary

General medical examination revealed the presence of acromegaly. A roentgenogram showed a pituitary fossa of normal size and shape, and there was characteristic clubbing of the terminal phalanges. In addition, the outline of the lower end of the radius and ulna was somewhat irregular, suggesting periosteal proliferation. The tibia and fibula were considerably increased in width, and an increased density with irregularity of bone outline suggested periosteal proliferation. The clinical diagnosis was cutis verticis gyrata, acromegaly, and ptosis (mechanical).



Appearance of patient with cutis verticis gyrata, showing furrows of the forehead, ptosis and enlargement of the terminal phalanges, Nov. 25, 1925.

November 26, under local anesthesia, an elliptic strip, including conjunctiva and tarsus, was excised from the right upper lid for pathologic examination.

Six roentgen-ray treatments, one every two weeks, were given at the Massachusetts General Hospital, under the direction of Dr. C. G. Love of the skin department. There was definite relief from the oil, but no apparent change in the thickness of the lids. Further treatment was not advised. May 13, 1925, an elliptic piece of skin was excised from the left upper lid. The patient was last seen, June 2, 1925, at which time the condition was unchanged.

PATHOLOGIC EXAMINATION

The material examined consisted of one elliptic piece of tissue, including conjunctiva and tarsus, excised from the right upper lid, by Dr. F. H. Verhoeff. After formaldehyde fixation it was embedded in celloidin and sections were stained in hematoxylin and eosin. Dr. Verhoeff found chronic conjunctivitis with marked proliferation of palpebral conjunctiva with formation of glands. Many of the glands were distended with concretions. The tarsus was practically free from infiltration.

COMMENT

The name cutis verticis gyrata was chosen because the condition is characterized by furrows occurring in the skin over the crown and back of the head which suggest the appearance of gyri and sulci of the brain. The first clinical study of this condition was made by Jadassohn.[1] Unna[2] subsequently described it and gave it the name. All patients have been men who, with one exception, had dark complexions. Only a few cases have been reported, and none were associated with acromegaly.

Stelwagon[3] says: "The hypertrophic form of dermatolysis may be congenital or acquired, and vary in its limitation and in the region affected. All parts of the skin, including the follicles, glands and subcutaneous tissue, share in the hypertrophy. The follicles are enlarged and a tendency to increased pigmentation exists." Bogrow[4] thinks it is due to congenital tendency to furrows intensified by subsequent infection. The association of this case with acromegaly suggests a possible endocrine basis.

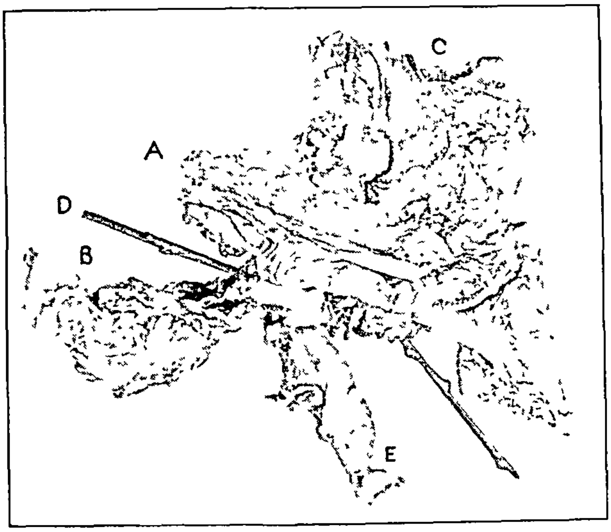
753 David Whitney Building.

CANCER OF STOMACH *

JOHN WILLIAM SHUMAN, M D, LOS ANGELES
Senior Attending Physician, Los Angeles General Hospital

Seldom is the opportunity given to check up on one's colleagues as closely and accurately as this case affords. The case is worth while reporting because of the lesion, the radical operation performed seventeen years prior to death, and the ease with which all facts pertaining were assembled

A man, aged 52, admitted in May, 1925, complained of loss of weight as a result of inability to take and assimilate food. From then until his death, November 23, repeated and detailed examinations failed to diagnose more than gastric malignancy. His history stated that part of the stomach was cut away and a new opening made by Dr. William Mayo, sixteen years previously. The patient had fair health until eight months before coming to the hospital. The roentgenogram showed a functioning gastro-enterostomy; about one third of the stomach, the cardiac end, could be seen Hydrochloric acid was absent Occult blood was present in the constipated stool Anemia was so like the picture of pernicious anemia that several of the attending physicians diagnosed it as such The color index was 1.5. The patient died from inanition



Stomach at necropsy: *A*, pyloric end; *B*, blind pouch of duodenum, *C*, cardiac end; *D*, twig run through to show colon, *E*, pancreas

Necropsy by Dr. George B. Maner showed the upper half of the stomach converted into a firm nodular mass, which was tightly adherent to the anterior flange of the diaphragm and impossible to separate without tearing. The pylorus had been resected and a posterior gastrojejunostomy had been done, not recently. The stomach was funnel shaped, about 12 cm. long and 7 cm. wide at the top, the enterostomy opening being the tip. The closed end of the duodenum could be demonstrated, as shown in the accompanying illustration. There was no infiltration of the pancreas, colon, spleen, lymphatics and other viscera.

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[1] Jadassohn: Verhandl. d deutsch Dermat, IX Kong., Berne, p. 432.

[2] Unna: Monatsh f prakt Dermat. **45**, p 227.

[3] Stelwagon: Textbook of Skin Diseases, p 632.

[4] Bogrow: Monatsh. f. prakt. Dermat., 1910, p. 16.

* From the Department of Internal Medicine, Los Angeles General Hospital.

The cause of death was extensive carcinoma of the cardiac end of the stomach.

A brief report, protocol and photograph sent by Dr. Mayo brought the following: ". . . The information you have given us is of value for our records. I am sorry to learn of his death, but it is gratifying at least to know that he has had sixteen years of life, following his operation here in 1908. This patient came to the Mayo Clinic, Oct. 19, 1908, and was operated on here, October 27, for a tumor, clinically malignant, of the pyloric end of the stomach, when a partial gastrectomy was done."

To sum up, this man had a pylorectomy at 33 for cancer, and died a little more than seventeen years later, well beyond the five year limit of recurrence.[1] Only during the last year of his life did he have severe symptoms. An operation resulting in artificial feedings might have prolonged his life. This he refused.

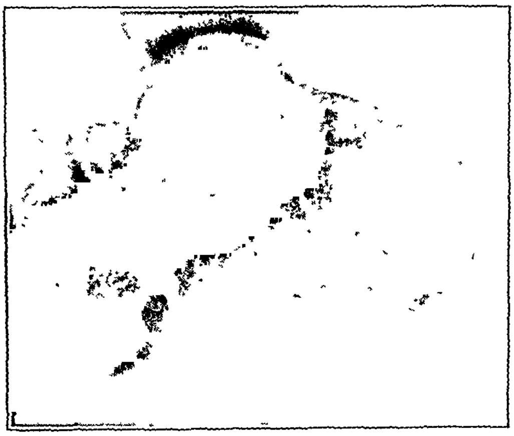
2007 Wilshire Boulevard.

UNUSUAL ARTICULATION OF THE ASTRAGALUS AND THE OS CALCIS

Charles E Farr, M D., New York

Many cases of lipping of the posterior edge of the astragalus are seen, and a few cases of an extratarsal bone are observed; but these are rare. The case here reported is unique in that it shows an extreme projection from the posterior surface of the astragalus, with a separate joint for this projection on a corresponding projection of the os calcis. Consultation with the anatomic department at Cornell University revealed no similar finding in their records.

The surgical significance of this unusual finding is obvious in that a slight trauma might easily fracture this projection and cause considerable temporary disability. I saw one such case in consultation, but the extra articulation was not present. The posterior projection of the astragalus was almost as marked as in the case presented.



Projection from posterior surface of astragalus, with separate joint for this projection on a corresponding projection of the os calcis.

This patient was a laboring man who had received a fairly severe contusion of the foot, and the roentgenogram was taken to exclude a fracture. No fracture was found, and the case is presented for its rarity and its possible complications.

620 Park Avenue.

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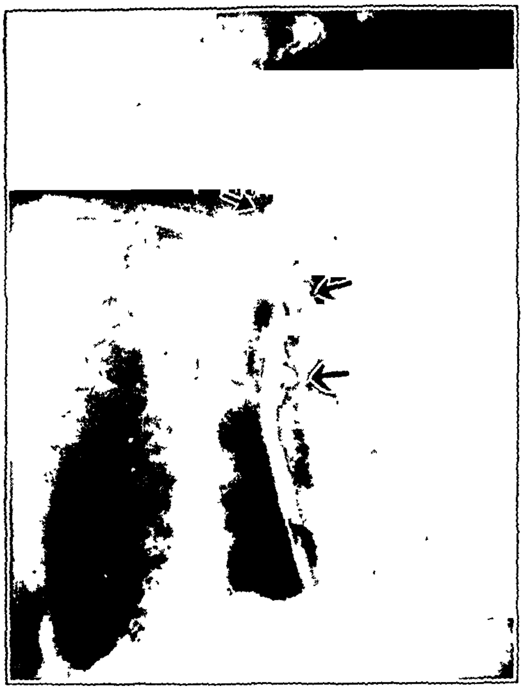
[1] Mayo, W. J.: Surg., Gynec. & Obst. **26**: 367 (April) 1918.

MULTIPLE SACCULATIONS OF THE ESOPHAGUS*

Jacob Buckstein, M.D., New York
Consultant in Gastro-Enterology, U. S. Veterans' Bureau; Associate Roentgenologist, Bellevue Hospital; Lecturer in Gastro-Enterology, New York Polyclinic Medical School and Hospital

The case described is reported because it is the first of its kind that I have seen in the course of more than 10,000 examinations of the gastro-intestinal tract.



Multiple sacculations of the esophagus, indicated by arrows.

T O., aged 44, complained of knifelike pain in the left upper quadrant, which occurred an hour or two after meals. The condition had lasted four months. There was no radiation, vomiting or food relief. He had lost 20 pounds (9 Kg.). Physical examination, except for tenderness in the left upper quadrant, was negative Nothing in the clinical examination suggested an esophageal disorder.

The sacculations of the esophagus in the accompanying illustration were noted in the course of a routine roentgenographic examination of the gastro-intestinal tract. The remainder of the alimentary canal was normal.

For a number of weeks since the examination, the patient has been entirely symptom free.

The esophageal condition does not appear to have any relation to his symptoms, and may be congenital.

1 West Eighty-Fifth Street.

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* From the radiographic department, Bellevue Hospital, Dr. I. S. Hirsch, director.

Need of Periodic Health Examinations.—Individuals who need a periodic health examination at regular intervals are: 1. Healthy individuals who want to keep their health. 2. Near well individuals who think they are healthy but who are uncomfortable, dissatisfied, and who sometimes suffer pain. They have bad health habits, defects or impairments which, corrected, would place them in the healthy group. 3. Individuals who think they are ill, but who are merely the victims of bad physical and mental habits. 4. Unhealthy individuals who constantly have colds, boils or abscesses. They have defects, impairments and habits which need the attention of a competent physician. 5. Ill individuals with chronic disease or impairment which, treated properly, would prolong life and usefulness for many years.—Wood, T. D., and Dansdill, T.: By-Ways to Health, 1925, p. 7.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 1008)

Essential Composition of Pills.—A pill mass consists of at least two parts: active ingredient and excipient. The active ingredient suitable for pill form is almost any solid medicine that is not deliquescent and the dose of which is small (not exceeding 1 Gm.). If the dose is higher than 0.5 Gm., two pills should be made of it. Even deliquescent substances may be prescribed if their dose is very small. Liquids can be prescribed in pill form, if the dose of the liquid does not exceed a drop.

A diluent is necessary when the dose of the active ingredient is very small, as 1 mg. of strychnine sulphate. Here the diluent (starch) is required to form pills of the proper size. Very irritant or caustic substances require a diluent in order to avoid excessive action on the stomach. Liquids and deliquescent bodies need an absorbent powder, such as kaolin. Also, a diluent is necessary if the substance is very soluble, as such pills are apt to flatten. Here, the addition of an insoluble vegetable powder to afford by its fibers and cell walls the mechanical support necessary to maintain the globular shape is advisable. One of the best diluents for this purpose is powdered glycyrrhiza. Powdered althea may be preferred, if white pills are wanted.

The excipient, or cohesive, varies with the nature of the basic ingredients. On the proper choice of the excipient depend the keeping qualities of the pills, which should be such that the pills will retain their shape, and that they neither harden nor soften, nor crumble with age. Sometimes the ingredients are rendered sufficiently adhesive by the addition of a few drops of water or of alcohol. Usually an adhesive must be used, among which glucose, extract of gentian, and glycerite of starch may be mentioned as probably the most generally useful. The physician should prescribe the excipient only when a special or unusual one is needed. Commonly, its choice may be safely left to the pharmacist. The determination of the quantity of excipient is always left to the compounder.

An instance when a special excipient is required is in case of those chemicals that are destroyed by organic substances, such as silver nitrate or potassium permanganate. For these, the usual diluent is kaolin, with petrolatum as the excipient; but these pills do not disintegrate readily. Marshall[38] proposes pills made with kaolin, 2 parts, and anhydrous sodium sulphate, 1 part, which, although very hard, disintegrate rapidly. As this method is not sufficiently well known, a brief description of it may be given here.

The powdered drug is mixed with the requisite amount of kaolin; half as much anhydrous sodium sulphate as kaolin is added and, after mixing, the whole is massed with about the same weight of water as of sodium sulphate. The mass must be kept above 33 C. until the pills are finished. When the temperature of the pills falls to that of the room, they become of stony hardness. The method depends on the fact that 33 C. is a critical temperature for sodium sulphate. Above that temperature the sodium sulphate exists in the anhydrous form; hence the water is free, and the mixture is a plastic mass. Below 33 C. the sodium sulphate exists as $Na_2SO_4 . 7 H_2O$. Hence, when the temperature falls, this hydrated salt crystallizes out and the pills rapidly become hard. The pills disintegrate quickly, owing to the ready solubility of this salt in water.

The simplest subscription being best, provided it is explicit enough, the formula "Mix and divide into pills" suffices. The word mix implies the making of a mass; otherwise it could not be divided into pills. When, however, a pill mass is to be encapsulated, "Mix, make a mass, and divide into capsules" should be the subscription. Otherwise the druggist might pack the powder into the capsule, with a resulting different timing and extent of action.

The pill mass, essentially a dough, is first rolled into a ball and then into a cylinder of the proper length to yield the desired number of pills when rolled under and cut by the opposing sharp ridges of the pill machine. They are finally made into perfect little balls by being rolled in a sort of wooden cover. A dusting powder (conspergative) of lycopodium—or starch, if the pills are white—is employed to keep the pills from sticking together.

Pill Coating.—Pill coating aims to disguise the taste and improve the keeping qualities of pills. The following coatings may be used:

(*a*) Gelatin coating is the most popular and probably the best, because the most easily soluble, coating for the great majority of pills. It is obtained by dipping pills in a strong warm solution of gelatin, which is then allowed to harden in the air. This process can be well carried out only on a large scale. It is generally not necessary to specify the kind of coating, as it really makes little difference in the action and may embarrass the pharmacist, who may have the identical pill on hand with a different coating. Should, however, gelatin coating be especially desired, it is specified by writing after the name of the pills, and enclosed in parenthesis, the initials for gelatin-coated, thus: (g. c.). A prescription for gelatin-coated vegetable cathartic pills would, for instance, be written:

℞ 12 vegetable cathartic pills, N. F. (g. c.)
Label: One or two at bedtime.

A gelatin coating quite as serviceable, if not as elegant, can be given pills by any pharmacist by the use of gelatin capsules, as previously noted.

(*b*) Sugar coating is produced by moistening the pill with mucilage of acacia; then quickly transferring to a porcelain capsule containing a mixture of powdered sucrose or lactose, 8 parts, and powdered acacia, 2 parts; and rapidly rotating until they are covered with a firm, white covering. Sugar coating can be satisfactorily carried out only by the manufacturer. Sugar coating is specified by writing (s. c.) after the number of pills ordered. If the porcelain capsule in which the pills are shaken contains cacao powder instead of the sugar mixture, cacao coating is obtained.

(*c*) Tolu coating is used by the Pharmacopeia and the National Formulary to protect delicate chemicals, such as ferrous iodide of phosphorus, against change on exposure to air. Such coating is obtained by rapidly rotating the pills in a porcelain capsule containing a little of a mixture of equal volumes of tincture of tolu and ether.

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* This is the fifteenth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

[38] Marshall, C. R.: Manual of Prescribing, London, J. and A. Churchill, 1908, p. 187.

(*d*) Gold or silver coating, though much less frequently employed now than formerly, before gelatin or sugar coated pills were in use, may have a field of usefulness for its psychic quality, as well as because gold or silver can be easily applied by the retail pharmacist to insure tastelessness of extemporaneously prepared pills. Detailed directions for obtaining this coating are given in the National Formulary. By this means the pills become loosely coated with bits of broken foil, which effectively conceal the taste and yet give no obstacle to the penetration of solvents.

(*e*) Enteric pills are coated with a material that is insoluble in the stomach, but soluble in the intestine. Such coatings are: (1) keratin, made from goosequill; (2) phenyl salicylate; (3) "glutoid," gelatin hardened in formaldehyde, and (4) stearic acid coating. These coatings may be used when we desire action on the intestine alone, when the substance acts unfavorably on the stomach, or when the medicament is impaired in its action by the gastric secretion. Pills thus coated have, however, the disadvantage that it is impossible to regulate reliably the thickness of the coating and the rate of its disintegration. Hence they may not be dissolved in the intestine, and escape the body in the stools without having exerted the action expected of them. Enteric encapsulation seems preferable.

Administration of Pills.—Pills are swallowed as a whole, generally with the aid of a small quantity of fluid. Adults who think they cannot swallow pills are generally those who make the mistake of looking up while attempting to swallow. In this position, the swallowing of a bolus of food would be as difficult, if not impossible. The remedy lies in putting the pill far back on the tongue, taking a mouthful of water, and looking down while swallowing. Sometimes having the pill mixed with a little gruel seems to help in deglutition. A method that is said to succeed when others fail is to replace the seeds of a dark skinned grape with the pill, and then pop the pulp into the mouth and swallow it without chewing. All of which goes to show that it is not the size of the mass but the mental attitude toward it that is responsible for difficulty in swallowing pills or capsules.

POWDERS

Powders are finely subdivided solids or mixtures of solids. Their prescribing should be restricted to (*a*) comparatively insoluble, nondeliquescent drugs of inoffensive taste, such as bismuth subnitrate, magnesium oxide, calcium carbonate and sodium bicarbonate, and to (*b*) drugs, even though soluble, whose dosage is too bulky to be prescribed in capsules, chachets or solution, as the saline cathartics. Even soft or liquid substances may be prescribed in powder form, provided their dose is so small that it can be incorporated in a reasonable quantity of absorbing powder. Caustic or very irritant substances should not be given in this form, unless largely diluted with some inert powder, or unless the powder is dissolved in a liberal quantity of water before taking. A diluent is also necessary when the dose of the medicament is very small, as in the case of mild mercurous chloride, for otherwise the patient might not be able to find the dose. Enough diluent is added to make each powder weigh 0.3 Gm. Diluents available for these purposes are sugar of milk, cane sugar, oil sugars, powdered starch (which permits incorporation of at least 10 per cent of its weight of liquid) and powdered glycyrrhiza.

Unsuitable for administration in powder form are drugs and drug mixtures unstable in the air, such as:

(*a*) Deliquescent or hygroscopic bodies. Deliquescent are potassium acetate and carbonate; sodium iodide and nitrite; the halogen salts (chloride, bromide, iodide) of the alkaline earth metals (calcium, strontium, magnesium, lithium), of iron, zinc, manganese and gold; phenol, chromium trioxide, pilocarpine hydrochloride, and hyoscyamine hydrobromide. Hygroscopic are chlorinated lime, and scale preparations of iron and of pepsin.

(*b*) Liquefying mixtures: the phenols (phenol, thymol, resorcinol, camphor, menthol, phenyl salicylate). Acetanilid, acetphenetidin and antipyrine also liquefy with some of these; so do lead acetate and sodium phosphate.

(*c*) Volatile bodies and those compounds that are liable to decompose on exposure to air, as lead acetate and morphine acetate, which gradually lose acetic acid.

(d) Explosive mixtures; combinations of oxidizing and reducing agents, as potassium chlorate and sulphur.

The Pharmacopeia recognizes the following cathartic powder mixtures, mentioned in approximately descending order of practical importance:

1. Compound effervescing powder (seidlitz powder), containing sodium bicarbonate, 2.5 Gm.; sodium and potassium tartrate, 7.5 Gm., in blue powder paper; tartaric acid, 2.15 Gm., in white powder paper. The two powders are mixed with a half tumblerful of water before taking.
2. Compound powder of glycyrrhiza (compound licorice powder), containing: senna, 18 Gm.; glycyrrhiza, 24 Gm.; washed sulphur, 8 Gm.; *oil of* fennel, 0.4 Gm.; sucrose, 50 Gm. Average dose, 4 Gm.
3. Compound powder of jalap, containing: jalap, 35 Gm.; potassium bitartrate, 65 Gm. Average dose, 2 Gm.
4. Compound powder of rhubarb, containing: rhubarb, 25 Gm.; magnesium oxide, 65 Gm.; ginger, 10 Gm. Average dose, 2 Gm.

There is also in the Pharmacopeia the following formula for an analgesic diaphoretic which was popular before the days of the coal tar analgesics for the relief of the aches and pains of fever patients:

Powder of ipecac and opium (Dover's powder), containing: ipecac, 10 Gm.; opium, 10 Gm.; lactose, 80 Gm. Average dose, 0.3 Gm.

Dispensing of Powders.—Powders may be dispensed in bulk, or in divided doses.

When the dose of a powder exceeds 1 or 2 Gm., especially if its weight need not be very exact, it is best prescribed in bulk, the dose being measured, when wanted, with a teaspoon or in any other appropriate way. For the purpose of approximating dosage, it may be assumed that a heaped teaspoonful contains from 1 to 2 Gm. of a light powder; 2 to 4 Gm. of a moderately heavy, and 4 to 8 Gm. of a heavy powder. If level full, it contains only about half as much. Powders in bulk may be sent to the patient in a paper box or in a wide-mouthed bottle; the latter should always be selected, if the powder is liable to be altered by free access of air. The subscription would therefore either be "Dispense in a box," or "Dispense in a bottle," according to the permanence of the powder. Compound powder of glycyrrhiza is generally dispensed in a box. The effervescing salts should always be dispensed in a bottle.

Powders must be dispensed in divided doses whenever accuracy in dosing is necessary. This is the case with compound jalap powder and Dover's powder.

Each dose is then folded by the pharmacist in a powder paper. The dose accommodated by these may be quite large.

If the powders contain a volatile or a deliquescent substance, they must be wrapped in waxed paper, which may be specified in the subscription "Dispense in waxed papers." It is better, however, to avoid if possible prescribing such substances in powder form.

The patient may be directed to take the powder in water, milk or syrup, or he may place the dry powder on the tongue and swallow it with a mouthful of water. Insoluble bodies like bismuth subnitrate or chalk should always be stirred with water until all lumps have disappeared, as otherwise the formation of enteroliths is believed to be more likely. Powders are most conveniently administered to infants by dipping the moistened clean finger into the powder and spreading it over the infant's tongue.

The following special varieties of powders might be worthy of note:

Triturations (triturates): These are powders obtained by rubbing the active substance with some inert material, such as sugar of milk. Their advantage lies in the greater convenience of weighing a comparatively large amount of substance. Furthermore, the rubbing to a very fine powder increases somewhat the activity of sparingly soluble substances by exposing a greater surface to the solvent. Sparingly soluble, potent drugs are often best dispensed in this form. The Pharmacopeia contains a general formula for triturations, which is to be used by the pharmacist, unless he is otherwise directed:

The substance	10 Gm.
Lactose, in moderately fine powder	*90 Gm.*
To make	*100 Gm.*

The substance and the sugar of milk are weighed separately; then the substance, previously reduced, if necessary, to a moderately fine powder, is placed in a mortar, about an equal measure of lactose is added, well mixed by means of a spatula, and triturated thoroughly together. Then fresh portions of the lactose are added, from time to time until the whole has been incorporated, and trituration is continued until the substance is intimately mixed with the lactose and reduced to a fine powder.

Perhaps the best example of the use of a trituration is in the prescribing of elaterin, the dose of which is so small (0.003 Gm.) that the addition of lactose is required to divide the substance into powders of suitable size. In prescribing a hydragogue cathartic for dropsy, we might add to the trituration of elaterin 0.02 Gm. of extract of hyoscyamus per dose to antagonize griping. One powder might be taken on alternate mornings.

Mild mercurous chloride is likewise often prescribed as a triturate, for calomel is so heavy and the quantity usually employed so small that, without the addition of lactose, the patient might not be able to find his dose.

Oil Sugars: Oil sugars are mixtures of volatile oils with powdered sucrose. The National Formulary contains a general formula for these: any volatile oil 1 drop; sucrose, 2 Gm. The sugar is triturated with the volatile oil until they are intimately mixed. Thus oil sugar of anise or of peppermint is prepared from the corresponding volatile oil, according to this formula. They should be freshly made, when wanted. They are used mainly as pleasant diluents for powders.

(To be continued)

New and Nonofficial Remedies

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application. W. A. Puckner, Secretary.

MEAD'S POWDERED LACTIC ACID MILK (CULTURED).—A modified milk product prepared by fermenting whole milk with *B. acidi-lactici*, drying, and powdering. Each 100 Gm. contains approximately protein 29 Gm.; carbohydrates, 26.4 Gm.; fat, 28.8 Gm.; free lactic acid, 3 Gm., and ash, 6 Gm.

Actions and Uses.—Mead's powdered lactic acid milk (cultured) is proposed for overcoming the so-called buffer action of cow's milk in the infant's stomach. The nutritive value of 500 Gm. corresponds approximately to 2,450 calories.

Dosage.—For use, Mead's powdered lactic acid milk (cultured) is mixed with warm water in quantities as prescribed by the physician. A smooth thin paste is made by adding a small amount of water to the dry powder; then the remainder of the water is added, and the resulting product bottled and kept on ice.

When prepared for use in proportion of one part solids to seven parts water, Mead's powdered lactic acid milk (cultured) contains approximately fat, 3.6 per cent; carbohydrates, 3.3 per cent.; protein, 3.6 per cent, and ash, 0.75 per cent. The nutritive value of 500 Gm. is approximately 319.2 calories.

Manufactured by Mead Johnson & Co., Evansville, Ind. No U. S. patent or trademark.

MEAD'S POWDERED LACTIC ACID MILK (ACIDIFIED WITH LACTIC ACID U. S. P.).—A modified milk product prepared by adding lactic acid U. S. P. to whole milk, drying and powdering. Each 100 Gm. contains approximately protein, 26.4 Gm.; carbohydrates, 34 Gm.; free lactic acid, 3 Gm.; fat, 24 Gm., and ash, 6 Gm.

Actions and Uses.—Mead's powdered lactic acid milk (acidified with lactic acid U. S. P.) is proposed for overcoming the so-called buffer action of cow's milk in the infant's stomach. The nutritive value of 500 Gm. of the dry powder corresponds approximately to 2,345 calories.

Dosage.—For use, Mead's powdered lactic acid milk (acidified with lactic acid U. S. P.) is mixed with warm water in quantities as prescribed by the physician. A smooth thin paste is made by adding a small amount of water to the dry powder, then the remainder of the water is added and the resulting product bottled and kept on ice.

When prepared for use in proportion of one part solids to seven parts water, Mead's powdered lactic acid milk (acidified with lactic acid U. S. P.) contains approximately fat, 3 per cent; carbohydrates, 4.2 per cent; protein, 3.3 per cent, and ash, 0.75 per cent. The nutritive value of 500 Gm. corresponds approximately to 335 calories.

Manufactured by Mead Johnson & Co., Evansville, Ind. No U. S. patent or trademark.

POLLEN EXTRACTS-MULFORD (See New and Nonofficial Remedies, 1925, p. 285; The Journal, June 6, 1925, p. 1734).

Lamb's Quarters Pollen Extract-Mulford; Ragweed Pollen Extract (Fall)-Mulford; Timothy Pollen Extract (Spring)-Mulford; Wormwood Pollen Extract Mulford. Also marketed as:

Fourth Series: Five glass syringes (doses 16 to 20, inclusive), each containing 1,000 protein units.

CONCENTRATED POLLEN EXTRACTS-SWAN-MYERS (See The Journal, May 30, 1925, p. 1634; Jan. 23, 1926, p. 277; Feb. 27, 1926, p. 625).

These products are also marketed in 2 cc. vials and in sets of five capillary tubes for diagnostic tests, each tube containing sufficient extract for one test.

SCARLET FEVER STREPTOCOCCUS ANTITOXIN (See The Journal, May 2, 1925, p. 1338).

E. R. Squibb & Sons, New York.

Scarlet Fever Streptococcus Antitoxin Concentrated (See The Journal, Jan. 16, 1926, p. 199).—Also marketed in packages of 1 cc. vials (for the diagnostic blanching test) containing sufficient scarlet fever antitoxin for ten blanching tests.

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SATURDAY, APRIL 10, 1926

A CRITICISM OF MODERN MEDICINE

A conscientious reviewer of the history of medicine would probably admit that within the last century, and largely within half that period, medical science and art have advanced with a speed incomparably greater than at any previous time. Philosophical speculation has given way to experimentation as medicine has kept pace with the advancement of science in general. It would be as ungracious as it is unjust to deny the great advance of medical knowledge along with the evolution of culture; and medicine can proudly boast of many conquests that deserve to be called marvelous.

Synge[1] has urged that it is often more useful to criticize than to applaud, because without dissatisfaction, without criticism, progress is impossible. To be content is to cease to advance. Synge has therefore frankly presented a series of cogent criticisms and comments, some of which seem worth repeating at a time when the needs, the shortcomings, the failures and the misdirections of medical training are being investigated vigorously in several quarters. There can be no offense in any effort to promote an advance, particularly since, despite medical progress, the incidence of all diseases is not decreasing; in fact, the incidence of some diseases is markedly increasing. Like many writers in this country, Synge stresses the belief that the tendency of modern diagnosis is to neglect the evidence furnished by signs and symptoms, and to place undue reliance on special tests. Thus, we are told bluntly that the roentgen ray, by simplifying diagnosis, has made clinicians lazy. "The science of errors is, unfortunately, a neglected branch of study." This statement embodies an appreciation of the readiness of present-day student and practitioner alike to accept so-called evidence at face value and without adequate discussion. Thus, some serologic reactions are frankly misleading. We are, in Synge's judgment, too ready to apply unfinished biochemical researches to clinical purposes. A discovery is heralded, and straightway it is applied to purposes of diagnosis or treatment regardless of possible limitations or fallacies. "The methods fail; the biochemist gets the abuse." Biochemists and clinicians do not collaborate sufficiently.

It sounds like a platitude, yet one welcomed by the "practical doctor," to hear that observation, experience and sound judgment are more important in clinical medicine than are measurements with delicate instruments. We have often maintained that the use of helpful material devices is not incompatible with the exercise of sane judgment. Even the most "hard headed" physician usually finds a watch helpful in estimating the behavior of the heart. We find somewhat greater sympathy with Synge's animadversions at the spread of certain fashions and foibles. Vaccines become a panacea, and every conceivable disease is treated with them. Drugs must now be given hypodermically or intravenously instead of by mouth, because a few drugs have been found to be more efficacious when so given. And, with the age of endocrinology, prosperity has come to new forms of pseudoscience.

Synge alleges, with much justification, that the belief in the magical and the irrational has increased because the critical faculty has been dulled by so many new wonders. The pessimist will be inspired by the assertion that belief in everything is followed by belief in nothing; credulity is succeeded by skepticism; skepticism by cynicism; cynicism makes no effort, knowledge declines. Is it not better to share the more optimistic outlook of Synge in this admonition:

> Hard and conscientious work, accurate observation, sound reasoning, a mind free from obsessions and superstitions, a firm belief in the possibilities of medicine as an art and as a science; these are the things which have raised medicine to its present greatness; these are the things which will carry it onward, always.

ACRODYNIA, ERYTHREDEMA OR SWIFT'S DISEASE?

It was once an almost universal custom to associate a newly recognized disease entity with the name of the investigator, usually a clinician, who first published an accurate description of it. Thus, to give only a few conspicuous illustrations, physicians still speak of Bright's disease, Pott's disease, Basedow's disease, Barlow's disease and Paget's disease. Obviously, a step in advance occurs when any malady can be more accurately designated as a demonstrable lesion of some organ, a definite perversion of some function, or a bacterial invasion of certain tissues. Interstitial nephritis, hyperthyroidism, and tuberculosis of the spine have direct implications of a more scientific character. So long as a disease designation can be based on a definite, clear cut, pathogenic feature, the corresponding name is likely to represent a distinct advantage. Often the nomenclature refers merely to a conspicuous symptom. Eczema and "pink disease" represent instances of the undesirability of the designations. Symptoms are all too often common to more than one systemic disorder and consequently do not have a uniform ultimate cause.

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[1] Synge, V. M.: A Criticism of Modern Medicine, Irish J. M. Sc. 6:20 (Jan.) 1926.

The history of the confusion and actual harm arising from this more modern practice of employing supposedly "scientific" technical language has been exemplified in the discussions of a recently well recognized pathologic entity of infancy and early childhood. The clinical syndrome consists of three groups of symptoms, nutritional, nervous and cutaneous, occurring in infancy and early childhood, such as loss of weight and appetite, weakness, extreme irritability, sleeplessness, paresthesias, loss of reflexes, photophobia, paresis, erythema, swelling, cyanosis, coldness of hands and feet, high blood pressure, excessive perspiration, miliaria, desquamation, loss of hair and loss of teeth. Recently it has been designated occasionally under the name acrodynia, a term referring to the painful extremities. This obviously describes one of the most typical symptoms of the complex, although it gives no indications of the nutritional or neurologic involvements in the causation. Another recent designation is erythredema, a term likewise applying to a prominent clinical feature seen in the pink hands and feet.

Recently it was pointed out[1] that the disease here referred to is by no means uncommon. Australia, England, Netherlands, Scotland, New Zealand, Sweden and Switzerland have furnished patients in addition to those of American pediatricians. At least 230 cases are thus recorded for consideration. Warthin[2] has referred to all the current designations as unfortunate and misleading. His own necropsy studies indicate, for example, that the expression erythredema is not universally justifiable in this connection, for his histologic observations at the University of Michigan failed to disclose any edema of the corium. They do not present any evidence as to a specific infectious etiology; they likewise show no relationship between tonsillar disease and the syndrome, in contrast with Rodda's[3] indications. Two cases, representing Warthin's important contribution, are too few to permit broad generalization. The changes in the skin and central nervous system suggested to him at once the pathology of the early erythema stage of pellagra. The changes in the skin are also identical with those seen in certain forms of light sensitization, xeroderma and fagopyrism, as well as with certain stages of roentgen-ray and ultraviolet ray erythemas. The entire anatomic picture in the two cases suggests either a food deficiency or a toxic state acting on persons of the hypoplastic constitution, affecting the reticulo-endothelial system of meninges and skin, also the vegetative nervous system, and possibly leading to a light sensitization. With an important subject thus clearly remaining *sub judice,* Warthin proposes that, pending more adequate investigation and conclusive evidence of etiology, it would be better to call the condition Swift's disease than to designate it by terms that apply so little to it as do "acrodynia" or "erythredema." This reference is in deference to the circumstance that Swift, in 1914, under the clinical designation of erythredema, reported at the Australian Medical Congress fourteen cases presenting the now familiar clinical picture of red hands and feet occurring in infants and young children.

INVESTIGATION ON STREAM POLLUTION

Increasing density of population brings with it one penalty that cannot be escaped, an increase in the amount of waste from human bodies which must somehow be permanently removed. One of the simplest methods of sewage disposal is to turn the sewage into some body of water so large that oxidation processes may go on and a nuisance be avoided. This practice was long fraught with disastrous consequences to drinking water supplies, and in the generation before methods of water filtration and chlorination were worked out and applied, typhoid and kindred diseases ran riot. Although water-borne typhoid in this country is now largely a thing of the past, there are signs that the pollution of many streams is again approaching a danger point.

When the pollution of streams reaches a certain stage, it becomes more difficult and in some cases impossible to utilize the water for domestic use. There is no need to set up an impracticable ideal. The fact that nearly every body of surface water large enough to serve as a source of water supply is more or less contaminated must be faced. If the water does not receive city sewage, it is well-nigh certain to receive the drainage from small towns and villages or from isolated farmhouses. Even in remote districts, as experience has shown, the streams are exposed to occasional contamination by camping parties or chance wayfarers. The running streams of this country are not now in a safe condition to use as sources of water supply without some sort of purifying treatment. The same is true in greater or less degree of most ponds and lakes.

While our present methods of water purification are in most instances quite adequate, they should not be expected to effect the impossible. Sooner or later the increase of pollution may place a burden on the purification process that cannot be successfully met. When that time comes, "accidents" to the water supplies will become increasingly frequent and the menace of water-borne diseases will again hang over us. There are signs that in some localities this period may not be remote.

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[1] Is Acrodynia a New Disease? editorial, J. A. M. A **85:** 1225 (Oct. 17) 1925.

[2] Warthin, A S.: So-Called Acrodynia or Erythredema (Swift's Disease), Arch. Pathol. **1:** 64 (Jan) 1926

[3] Rodda, F. C : Acrodynia: A Clinical Study of Seventeen Cases, Am. J. Dis. Child. **30:** 224 (Aug.) 1925.

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SATURDAY, APRIL 10, 1926

A CRITICISM OF MODERN MEDICINE

A conscientious reviewer of the history of medicine would probably admit that within the last century, and largely within half that period, medical science and art have advanced with a speed incomparably greater than at any previous time. Philosophical speculation has given way to experimentation as medicine has kept pace with the advancement of science in general. It would be as ungracious as it is unjust to deny the great advance of medical knowledge along with the evolution of culture; and medicine can proudly boast of many conquests that deserve to be called marvelous.

Synge[1] has urged that it is often more useful to criticize than to applaud, because without dissatisfaction, without criticism, progress is impossible. To be content is to cease to advance. Synge has therefore frankly presented a series of cogent criticisms and comments, some of which seem worth repeating at a time when the needs, the shortcomings, the failures and the misdirections of medical training are being investigated vigorously in several quarters. There can be no offense in any effort to promote an advance, particularly since, despite medical progress, the incidence of all diseases is not decreasing; in fact, the incidence of some diseases is markedly increasing. Like many writers in this country, Synge stresses the belief that the tendency of modern diagnosis is to neglect the evidence furnished by signs and symptoms, and to place undue reliance on special tests. Thus, we are told bluntly that the roentgen ray, by simplifying diagnosis, has made clinicians lazy. "The science of errors is, unfortunately, a neglected branch of study." This statement embodies an appreciation of the readiness of present-day student and practitioner alike to accept so-called evidence at face value and without adequate discussion. Thus, some serologic reactions are frankly misleading. We are, in Synge's judgment, too ready to apply unfinished biochemical researches to clinical purposes. A discovery is heralded, and straightway it is applied to purposes of diagnosis or treatment regardless of possible limitations or fallacies. "The methods fail; the biochemist gets the abuse." Biochemists and clinicians do not collaborate sufficiently.

It sounds like a platitude, yet one welcomed by the "practical doctor," to hear that observation, experience and sound judgment are more important in clinical medicine than are measurements with delicate instruments. We have often maintained that the use of helpful material devices is not incompatible with the exercise of sane judgment. Even the most "hard headed" physician usually finds a watch helpful in estimating the behavior of the heart. We find somewhat greater sympathy with Synge's animadversions at the spread of certain fashions and foibles. Vaccines become a panacea, and every conceivable disease is treated with them. Drugs must now be given hypodermically or intravenously instead of by mouth, because a few drugs have been found to be more efficacious when so given. And, with the age of endocrinology, prosperity has come to new forms of pseudoscience.

Synge alleges, with much justification, that the belief in the magical and the irrational has increased because the critical faculty has been dulled by so many new wonders. The pessimist will be inspired by the assertion that belief in everything is followed by belief in nothing; credulity is succeeded by skepticism; skepticism by cynicism; cynicism makes no effort, knowledge declines. Is it not better to share the more optimistic outlook of Synge in this admonition:

> Hard and conscientious work, accurate observation, sound reasoning, a mind free from obsessions and superstitions, a firm belief in the possibilities of medicine as an art and as a science; these are the things which have raised medicine to its present greatness; these are the things which will carry it onward, always.

ACRODYNIA, ERYTHREDEMA OR SWIFT'S DISEASE?

It was once an almost universal custom to associate a newly recognized disease entity with the name of the investigator, usually a clinician, who first published an accurate description of it. Thus, to give only a few conspicuous illustrations, physicians still speak of Bright's disease, Pott's disease, Basedow's disease, Barlow's disease and Paget's disease. Obviously, a step in advance occurs when any malady can be more accurately designated as a demonstrable lesion of some organ, a definite perversion of some function, or a bacterial invasion of certain tissues. Interstitial nephritis, hyperthyroidism, and tuberculosis of the spine have direct implications of a more scientific character. So long as a disease designation can be based on a definite, clear cut, pathogenic feature, the corresponding name is likely to represent a distinct advantage. Often the nomenclature refers merely to a conspicuous symptom. Eczema and "pink disease" represent instances of the undesirability of the designations. Symptoms are all too often common to more than one systemic disorder and consequently do not have a uniform ultimate cause.

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[1] Synge, V. M.: A Criticism of Modern Medicine, Irish J. M. Sc. 6: 20 (Jan.) 1926.

The history of the confusion and actual harm arising from this more modern practice of employing supposedly "scientific" technical language has been exemplified in the discussions of a recently well recognized pathologic entity of infancy and early childhood. The clinical syndrome consists of three groups of symptoms, nutritional, nervous and cutaneous, occurring in infancy and early childhood, such as loss of weight and appetite, weakness, extreme irritability, sleeplessness, paresthesias, loss of reflexes, photophobia, paresis, erythema, swelling, cyanosis, coldness of hands and feet, high blood pressure, excessive perspiration, miliaria, desquamation, loss of hair and loss of teeth. Recently it has been designated occasionally under the name acrodynia, a term referring to the painful extremities. This obviously describes one of the most typical symptoms of the complex, although it gives no indications of the nutritional or neurologic involvements in the causation. Another recent designation is erythredema, a term likewise applying to a prominent clinical feature seen in the pink hands and feet.

Recently it was pointed out[1] that the disease here referred to is by no means uncommon. Australia, England, Netherlands, Scotland, New Zealand, Sweden and Switzerland have furnished patients in addition to those of American pediatricians. At least 230 cases are thus recorded for consideration. Warthin[2] has referred to all the current designations as unfortunate and misleading. His own necropsy studies indicate, for example, that the expression erythredema is not universally justifiable in this connection, for his histologic observations at the University of Michigan failed to disclose any edema of the corium. They do not present any evidence as to a specific infectious etiology; they likewise show no relationship between tonsillar disease and the syndrome, in contrast with Rodda's[3] indications. Two cases, representing Warthin's important contribution, are too few to permit broad generalization. The changes in the skin and central nervous system suggested to him at once the pathology of the early erythema stage of pellagra. The changes in the skin are also identical with those seen in certain forms of light sensitization, xeroderma and fagopyrism, as well as with certain stages of roentgen-ray and ultraviolet ray erythemas. The entire anatomic picture in the two cases suggests either a food deficiency or a toxic state acting on persons of the hypoplastic constitution, affecting the reticulo-endothelial system of meninges and skin, also the vegetative nervous system, and possibly leading to a light sensitization. With an important subject thus clearly remaining *sub judice*, Warthin proposes that, pending more adequate investigation and conclusive evidence of etiology, it would be better to call the condition Swift's disease than to designate it by terms that apply so little to it as do "acrodynia" or "erythredema." This reference is in deference to the circumstance that Swift, in 1914, under the clinical designation of erythredema, reported at the Australian Medical Congress fourteen cases presenting the now familiar clinical picture of red hands and feet occurring in infants and young children.

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When the pollution of streams reaches a certain stage, it becomes more difficult and in some cases impossible to utilize the water for domestic use. There is no need to set up an impracticable ideal. The fact that nearly every body of surface water large enough to serve as a source of water supply is more or less contaminated must be faced. If the water does not receive city sewage, it is well-nigh certain to receive the drainage from small towns and villages or from isolated farmhouses. Even in remote districts, as experience has shown, the streams are exposed to occasional contamination by camping parties or chance wayfarers. The running streams of this country are not now in a safe condition to use as sources of water supply without some sort of purifying treatment. The same is true in greater or less degree of most ponds and lakes.

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[1] Is Acrodynia a New Disease? editorial, J. A. M A **85**: 1225 (Oct. 17) 1925

[2] Warthin, A S: So-Called Acrodynia or Erythredema (Swift's Disease), Arch Pathol **1**: 64 (Jan) 1926

[3] Rodda, F C Acrodynia A Clinical Study of Seventeen Cases, Am J. Dis Child **30**: 224 (Aug) 1925.

With this situation in mind, the U. S. Public Health Service about twelve years ago inaugurated a study of stream pollution. Under wise guidance the investigations have included not only the nature and degree of the pollution, but the proper criteria of water purity and water purification, the complex and highly important phenomena of natural purification, and the efficiency of filter plants in dealing with water overloaded with sewage. Many technical papers dealing with various phases of the work have been published, and a general review has recently appeared.[1] The comprehensive studies on the Ohio River especially have demonstrated in a convincing way the great extent to which we must depend on processes of natural purification for safeguarding our water supplies. It was shown twenty-five years ago, during studies on the Chicago Drainage Canal, that the sewage bacteria decreased at orderly rates as the time from the point of initial contamination increased, and that these rates were affected by seasonal influences. These results have been amply confirmed by the recent work of the Public Health Service on the Ohio and Illinois Rivers. The factors that cause this reduction, however, are still not clearly understood. Among the interesting suggestions made is that one, if not the most significant, agency is the activity of the plankton animals in destroying bacteria.[2] It is evident that an important task before workers in this field is the determination of the factors governing natural purification in order that this process may be taken advantage of to the fullest extent.

Water filters and other devices for large-scale purification cannot be relied on to convert highly polluted streams into good drinking water. Apart from esthetic considerations, there is a limit to what can reasonably be demanded from any filter plant or chlorination apparatus. Since in spite of these limitations stream pollution tends to increase with increasing urban growth, there are two main possibilities: either artificial sewage treatment must be practiced on a larger and more expensive scale, or the processes of natural purification, as exemplified in storage, must be utilized in increasing degree. Something can probably be done to enhance the effectiveness of artificial methods of water purification, but the sudden and extreme variations that occur in the "load" when pollution is extreme constitute a serious difficulty. All in all, the questions of water standards, of the reliability, adaptability and limitations of purification processes set to deal with varying loads, and of the laws of the self-purification of polluted streams form a group of problems the importance of which to sanitary science can hardly be overestimated. It is to be hoped that the series of studies conducted with such signal success by the representatives of the Public Health Service will be continued and, where desirable, extended.

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[1] Frost, W. H.: Pub. Health Rep. **41**: 75 (Jan. 15) 1926.

[2] Purdy, W. C., and Butterfield, C. T.: Am. J. Pub. Health **8**: 499 (July) 1918.

Current Comment

RENAL VASOCONSTRICTION AND ALBUMINURIA

Complete interruption of the arterial flow in the kidney for a short time is followed by albuminuria. The glomerulus of the kidney has been demonstrated to be one, at least, of the structures through which escape of protein into the urine may take place when the renal circulation is interfered with. Recent studies, notably those of Richards of Philadelphia and his co-workers, have demonstrated an unsuspected intermittence of blood flow in some of the glomeruli, so that the circulatory activity of one is independent of others. This is analogous to what Krogh of Copenhagen described with respect to the behavior of capillaries in muscle tissue. Like the latter, apparently the glomeruli do not all ordinarily receive blood simultaneously. In his Harvey Society Lecture of 1921 on kidney function, Richards[1] remarked that if intermittence of glomerular flow is a normal phenomenon, it would appear that albuminuria might occur if, for any reason, the duration of the normal intermittent cessation of flow increased. How well this conjecture was warranted is indicated by Starr's[2] observations at the University of Pennsylvania. In animals, agents causing renal vasoconstriction were found to cause a transient albuminuria. In man, the same manifestation followed the use of the drug ephedrine, which is not intrinsically injurious to the kidney and which has been demonstrated to produce renal vasoconstriction. Albuminuria failed to appear in those cases in which signs of circulatory change were lacking. According to Starr, the observed facts may be explained by the conception that renal vasoconstriction causes increase in the duration and extent of the normal intermittent interruptions in the glomerular circulation. Permeability of the glomerular membranes is so increased by these interruptions that, when blood flow is reestablished, albumin escapes. Such an interpretation of what has been termed non-nephritic albuminurias may be applicable to a variety of conditions seen in man. The fundamental feature is not the mere diminution in the rate of blood flow that was once held responsible for the phenomena, but rather the intermittent interruptions in blood flow through the glomeruli, the duration of which is greater than can be borne by the glomerular membranes without asphyxial alteration in their permeability. As Starr has pointed out, this may apply to the albuminurias that result from excessive muscular exercise or emotion or that are produced reflexly. It may play a part in the explanation of the albuminuria that occurs after anesthesia or in cardiac decompensation; and it may represent a reason for the occasional occurrence of protein in the urine of the healthy. There are many ways in which the sequence of renal vasoconstriction, anemia, localized tissue asphyxia, and escape of albumin may be conceived to arise independent of any frank disease of the kidney parenchyma. These experiments, as Starr points out, provide a reason for anticipating the appearance of protein in the urine whenever profuse urine secretion is reestablished after a period of relative or complete suppression as the result of constriction of vessels of the kidney.

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[1] Richards, A. N.: Kidney Function, the Harvey Lectures, 1920-1921, Philadelphia, J. B. Lippincott Company.

[2] Purdy, W. C., and Butterfield, C. T.: Am. J. Pub. Health **8**: 499 constriction in Animals and Man, J. Exper. Med. **43**: 31 (Jan.) 1926.

CONVICTED DIRECTOR OF EDUCATION NOW SEEKS HIGHER OFFICE

Reports indicate that William H. H. Miller, who in 1921-1922 was director of registration and education of Illinois, is now aspiring for the office of congressman-at-large. In his former position he became involved in a scandal because of a traffic that was being carried on in state licenses for physicians and pharmacists,[1] and was indicted by a Cook County grand jury and thrown out of office.[2] The bill returned by the grand jury named not only William H. H. Miller but also K. A. Fries and Dr. N. Odeon Bourque. K. A. Fries, employed in the department, was said to be Miller's son-in-law. Dr. N. Odeon Bourque was then prominently connected with the Chicago Medical School, a class C institution, in Chicago, and was conducting a quiz class in which he openly guaranteed that questions presented to the class would include a high percentage of the questions actually asked by the state board—a claim supported by a comparison of the questions. In the trial, July 21, 1922, Miller was declared guilty of conspiracy and was fined $1,000, which was paid in open court two days later.[3] Miller now has the presumption to seek nomination as congressman-at-large from Illinois. The people of Illinois may judge whether his record warrants their support of his candidacy to represent them in Congress.

ARCHIVES OF DISEASE IN CHILDHOOD

When the Board of Trustees began the publication of the *Archives of Internal Medicine* in 1908, few physicians anticipated the progress that the American Medical Association would make in the publication of special periodicals. Today, special journals in internal medicine, diseases of children, diseases of the skin, neurology and psychiatry, surgery, otolaryngology and pathology testify to the worthiness of the work. Every physician practicing in these specialties is ready to admit that the publication of these periodicals has done as much perhaps as any other factor in advancing progress in the fields they cover. A new and significant recognition of the place made by these publications is the fact that the British Medical Association has just issued what will probably be the first of special journals which it proposes to publish. In an introductory statement, Sir Thomas Barlow indicates the value of such a periodical to the progress of science, pointing out many problems in the diseases of children which demand investigation, and the necessity for bringing together the conclusions obtained by various workers, giving them at the same time opportunity to present their work. The first number of the British periodical is excellently printed on coated paper, and the articles are handsomely illustrated, with some of the pictures in color. The contents are limited to original contributions in the field of pediatrics. The editors selected by the British Medical Association are Hugh Thursfield and Reginald Miller, and there is a consulting staff, including seven other leading specialists in the diseases of children, and the editor of the *British Medical Journal.* It is well that English periodical literature should have another distinguished representative of the type of the *Archives of Disease in Childhood.*

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Held in Chicago, Feb. 15, 16, 17 and 18, 1926

(Continued from page 1078)

FEBRUARY 17—AFTERNOON

Medical Legislation in Connecticut

DR. ROBERT LEE ROWLEY, Hartford, Conn.: The investigation started by the public press in the "home town" of one of the diploma mills, and how the emissary came and told our governor of some of the startling discoveries made, and the prompt action taken by the governor, are matters of recent history. In our state there had been indications—noted by some—that all was not well, and when this was brought to the attention of the state medical society four of its members were delegated to lay the situation as it then appeared before state authorities. That was done just about one year before any action or investigation on the part of the state was undertaken. To the Council on Medical Education and Hospitals is due the credit for having been apparently the first to recognize the fact that graduates of low grade medical schools were coming in increasing numbers to one of the examining boards in our state, where they seemed to experience little if any difficulty in meeting the requirements that enabled them to obtain licenses. The investigation in Connecticut resulted in the cancelation of about 168 licenses to practice. Nearly three fourths of the persons holding those licenses resided outside Connecticut. Appeals were made in about sixty cases against the decision for cancelation of licenses. These cases are still in the courts, and, pending final decision on the appeals, those persons may continue to practice, according to a ruling of the attorney general. At the session of the state legislature, a year ago, bills were introduced for the restoration of licenses in about fifty of the cases. All those bills were defeated.

The state chamber of commerce prepared a bill that became the ground work of the bill that was finally approved and presented to the legislature by the grand jury. Perhaps the most important feature of the so-called grand jury bill was the one that provided for one examining board with one standard for all applicants for licensure to practice in any branch of the healing art. The fairness of purpose of the sponsors of that bill is illustrated by the provision that the examination shall be so conducted as not to discriminate against the views of any bona fide organization, sect or school, as to remedies or treatment or any system of therapeutics. The grand jury bill was defeated; instead of the six examining boards being replaced by one board, we now have in Connecticut seven examining boards. This seems absurd, but, as a matter of fact, an important step in the right direction has been taken. The state board of healing arts came into being, July 1, 1925. Under the terms of this law the governor appoints the three members of the board, one of whom is to serve for two years, one for four years and one for six years. No one can be appointed to the board who has received a degree in any of the healing arts, or who is a trustee, director, officer or employee of any hospital. The new law provides that every person desiring "to take an examination" to be admitted to practice any branch of the healing art must show by written examination by this board that he has a comprehensive knowledge of anatomy, physiology, hygiene, pathology and diagnosis. To be admitted to the examinations, he must satisfy the board that he is a person of good moral character and that he was a graduate of a high school or possessed equivalent educational qualifications before he began the study of the healing art. The board conceives its function as a board of elimination, a coarse seive through which applicants for a license to practice the healing art must first pass, with consequent elimination of the obviously unfit. The new law provides that a certificate from the state board of healing arts is prerequisite to examination by the Connecticut medical examining board, the Connecticut homeopathic medical examining board, the Connecticut eclectic medical examining board, the state board of osteopathic registration and examination, the state board of chiropractic examiners, or the state board of naturopathic examiners. It is too early to say whether or not any significance attaches to the fact that thus far, with I believe one exception, all the applicants before the board of healing arts have been graduates of regular schools of medicine. One would have supposed that a number of graduates of other schools would have appeared for examination before this time. It may be that the high school education requirement is a little too much of a hurdle for some.

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[1] Licensure Investigation in Illinois, J. A. M. A. 78:979 (April 1) 1922.

[2] *Medical Licensure in Illinois,* Current Comment, J. A. M. A. 79:306 (July 22) 1922; Governor Dismisses Miller, ibid. 79:665 (Aug. 19) 1922.

[3] Indictment no. 29033, People of State of Illinois v. William H. H. Miller, N. Odeon Bourque, K. A. Fries and William Broniarzik.

Fraudulent Medical Diplomas, and How Some Holders Secured Licenses

Frederick C. Waite, Ph.D., Cleveland: It is only the choice, the valuable, the desirable things that are counterfeited. With the great improvement in medical education in the twenty-five years just past, the genuine medical diploma has come to be in the public mind one of the most highly prized professional hall marks of our modern life. It is no wonder that a market for fraudulent medical diplomas has arisen and develops into a commercial enterprise. In one of the states in which were two of the principle foci of these activities, it has been my privilege to work with the public authorities in the study of the methods and results of the short cut into the medical profession through fraudulent diplomas. From such a consideration emerge certain principles which should be written into the creed of each licensing board. There is no justification in accepting a graduate of a deficient school. Every board should possess itself of frequently corrected knowledge of the educational efficiency of all those schools whose graduates commonly appear before it. In the case of the schools in its own state, that knowledge should be intimate. Graduates of little known schools or of schools of foreign countries should be denied admission to examination until authentic information is secured. Every board should have accessible data from which it can advise boards of other states as to intimate details of all schools within its own state, either now or previously existing. A postgraduate or ad eundem or duplicate degree should not be accepted as evidence of proficiency except after careful inquiry. No honorary degree should be accepted as giving evidence of proficiency. The recommendations as to personal worth and moral character should be investigated to ascertain just how much each sponsor knows about the candidate and also as to the professional standing of the sponsors themselves and the worth of their judgment. The authenticity of statements as to preliminary education should be directly investigated, and it should be insisted that this education shall have been completed before the professional course was begun. Preliminary education authenticated by examination to establish an equivalent should immediately create suspicion. Application blanks should be revised in various respects, especially to establish scholastic accomplishment instead of mere record of time service through attendance. Applications for license should be postponed or refused when presented too late to permit thorough investigation. No one expects that the end of fraudulent medical diplomas has arrived. The orgy of the last few years would have been improbable had the statutes of the various states been adequate; and, were the present statutes sufficient, each participant could be commensurately punished. Now, while the danger is in the public mind, is the proper time to prepare for the next crop of diploma mill products. It is the duty of each state board to cooperate in, and inaugurate, if necessary, the endeavor to secure in its own state legislation making it a felony to participate in the issuance, selling or receipt of an unearned diploma of medicine or of any other profession that relates to public health.

Revocation of License

Dr. K. P. B. Bonner, Morehead City, N. C.: The unworthy licentiate is a menace to the public, a discredit to the profession and a reflection on the licensing board. The agency vested with the power of licensing should have the power of unlicensing where necessary. Habitual imtemperance, convictions in court of crimes involving moral turpitude, criminal abortion, fraud and unprofessional conduct are generally accepted among the states as sufficient grounds on which a license may be withdrawn. These are named in the order of their popularity, and are specifically incorporated in the laws of thirty-eight, thirty-five, thirty and twenty-seven states, respectively. Demoralizing and deceptive advertising and gross immorality are less generally recognized as causes. Many states have set up in the statutes obviously just causes for revocation of license, but have made the enforcement of the law almost impossible by the insertion of a useless qualifying clause. It is surprising how limited are the causes for action in some states. Two states have no provisions of law permitting a license to be revoked. Direct correspondence with these boards reveals that licenses are revoked in each of these states. It would be interesting to know how the courts would view such procedure on appeal from the decisions of these boards. The section permitting withdrawal of license should be brief, but at the same time should cover every phase of misconduct. As far as possible, the board should have wide discretionary powers, and it should be made clear that such powers were vested in it. If too many qualifying clauses are inserted, it is possible that the primary object of the law will be defeated. The necessary machinery should be set up legally providing for the conduct of hearings, and investing the board with the power to issue summonses and to administer oaths. Above everything else, the power to revoke a license should be vested in the board. The law should provide, in cases of guilt, for degrees of punishment. With such discretionary powers, there is no necessity of making provision for future restoration of license.

Annual Registration of Physicians: Reregistration in Iowa

Dr. Don M. Griswold, Des Moines, Iowa: In 1906 there were about 5,000 persons practicing medicine in the state of Iowa, as nearly as can be estimated. Shortly after this date the work of the committee of medical education of the American Medical Association began to be felt. The supply of poorly trained physicians was being shut off at its source. It can be said with truth and justice and should be proclaimed from the housetops that the medical profession has "cleaned its own kitchen." As a result of the tireless and unceasing work of its board members, who were guided and directed by the Council on Medical Education of the American Medical Association, this important work has been done. The barriers at the front door of our profession are sufficiently high and sufficiently strong to withstand any assault. This state of affairs gives us time to look about for the other avenues of entrance than the "front door." Every fraudulently used license that is not meaningless or an outright forgery has been issued honestly to some one. These licenses that have no termination go on serving a purpose for some fraud, years after the man who earned it was sleeping in his grave. The license of a dead physician may be innocently sold as part of the assets of an estate. To frustrate this entrance from the "side door," several states, including Iowa, require an annual reregistration of the license to practice medicine. The holder of each license is addressed annually and asked whether he wishes to use his license during the coming year. If he does, he pins his check for one dollar to the enclosed card and returns it to the office of the board. If the licensee has died, retired, moved away or for any other reason does not receive the notice, the postmaster, family or friends notify the board and proper record is made of the fact.

DISCUSSION

DR. T. J. CROWE, Dallas, Texas: Men are going about the country, or were, using old diplomas and using old license certificates, simply taking out the name and inserting the name of another man, many of whom had been dead twenty years. Texas has tried to overcome that thing by issuing its license certificate on bank note paper, so that it cannot be changed or erased without detection. Dr. Waite's work, I think, was well done, but I think he made rather a doubtful use of it in publishing to the world that the state boards of this country are of doubtful caliber.

DR. JAMES STEWART, Jefferson City, Mo.: Dr. Waite's paper was one of the most interesting papers that I have heard. I have heard a lot about diploma mills. I want to add one more mill, and that is the state certificate mill. I want to ask you how can all of these men who have graduated from these inferior schools and from schools of no standing whatsoever, without any premedical education, come before state boards of health and get state certificates to practice medicine? There have been numbers of men in Missouri, and I guess elsewhere, who have paid all the way from $250 to $2,800 for state certificates to practice medicine.

DR. DAVID STRICKLER, Denver: I think it is very desirable that the annual registration should be carried out in Colorado. We have no data in our office to tell how many of these frauds are in the state at the present time. I should like to know whether in annual registration returns you simply give the name and address of the physician or whether you give any information as to the school he graduated from and when. The conditions on which he was licensed, it seems to me, would be good information.

DR. HENRY W. BRIGGS, Wilmington, Del.: The function of a state examining board is just as much to look after the men after they have been licensed as to license them, and, if necessary, to take their license away from them when they become unworthy. In the matter of interstate endorsement: If a man comes from a state the standard of which is equal to our own, and comes with proper training, premedical and medical; if he has had one year's internship in an accredited hospital, and has the recommendation of his own state board, signed by one of the officials, under seal, we will endorse the license without inquiry as to whether that particular state will take one of our men. In my state we have compulsory annual registration and it works very much to our advantage. Every physician in our state, in lieu of a state tax on any real estate which he might own, must pay to the state $10 for the privilege of practicing in that state that year. After the first day of June of each year, nobody is licensed in that state until he renews his license and registers with the clerk of the county in which he happens to live.

DR. H. M. PLATTER, Columbus, Ohio: Class C schools have not been on the accredited list of the Ohio state board. Two years ago we interrupted a diploma mill at Marietta. We have to be constantly on the alert to prevent the certificates of physicians who have died being sold, to a new physician who never saw a medical college. We have our troubles in examinations. Last year we threw two out for cheating. Not one of us is so smart that he cannot be imposed on.

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THE DALLAS SESSION

Phi Chi Medical Fraternity Banquet

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A Phi Chi registration booth will be located near the Registration Bureau in the Automobile-Manufacturers' Building, Fair Park. "Open house" will be maintained at the Chapter House of Xi, 3609 Gaston Avenue, Dallas.

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These demonstrations have been arranged for the members of the American Medical Association.

one for four years and one for six years. No one can be appointed to the board who has received a degree in any of the healing arts, or who is a trustee, director, officer or employee of any hospital. The new law provides that every person desiring "to take an examination" to be admitted to practice any branch of the healing art must show by written examination by this board that he has a comprehensive knowledge of anatomy, physiology, hygiene, pathology and diagnosis. To be admitted to the examinations, he must satisfy the board that he is a person of good moral character and that he was a graduate of a high school or possessed equivalent educational qualifications before he began the study of the healing art. The board conceives its function as a board of elimination, a coarse seive through which applicants for a license to practice the healing art must first pass, with consequent elimination of the obviously unfit. The new law provides that a certificate from the state board of healing arts is prerequisite to examination by the Connecticut medical examining board, the Connecticut homeopathic medical examining board, the Connecticut eclectic medical examining board, the state board of osteopathic registration and examination, the state board of chiropractic examiners, or the state board of naturopathic examiners. It is too early to say whether or not any significance attaches to the fact that thus far, with I believe one exception, all the applicants before the board of healing arts have been graduates of regular schools of medicine. One would have supposed that a number of graduates of other schools would have appeared for examination before this time. It may be that the high school education requirement is a little too much of a hurdle for some.

Fraudulent Medical Diplomas, and How Some Holders Secured Licenses

Frederick C. Waite, Ph.D., Cleveland: It is only the choice, the valuable, the desirable things that are counterfeited. With the great improvement in medical education in the twenty-five years just past, the genuine medical diploma has come to be in the public mind one of the most highly prized professional hall marks of our modern life. It is no wonder that a market for fraudulent medical diplomas has arisen and develops into a commercial enterprise. In one of the states in which were two of the principle foci of these activities, it has been my privilege to work with the public authorities in the study of the methods and results of the short cut into the medical profession through fraudulent diplomas. From such a consideration emerge certain principles which should be written into the creed of each licensing board. There is no justification in accepting a graduate of a deficient school. Every board should possess itself of frequently corrected knowledge of the educational efficiency of all those schools whose graduates commonly appear before it. In the case of the schools in its own state, that knowledge should be intimate. Graduates of little known schools or of schools of foreign countries should be denied admission to examination until authentic information is secured. Every board should have accessible data from which it can advise boards of other states as to intimate details of all schools within its own state, either now or previously existing. A postgraduate or ad eundem or duplicate degree should not be accepted as evidence of proficiency except after careful inquiry. No honorary degree should be accepted as giving evidence of proficiency. The recommendations as to personal worth and moral character should be investigated to ascertain just how much each sponsor knows about the candidate and also as to the professional standing of the sponsors themselves and the worth of their judgment. The authenticity of statements as to preliminary education should be directly investigated, and it should be insisted that this education shall have been completed before the professional course was begun. Preliminary education authenticated by examination to establish an equivalent should immediately create suspicion. Application blanks should be revised in various respects, especially to establish scholastic accomplishment instead of mere record of time service through attendance. Applications for license should be postponed or refused when presented too late to permit thorough investigation. No one expects that the end of fraudulent medical diplomas has arrived. The orgy of the last few years would have been improbable had the statutes of the various states been adequate; and, were the present statutes sufficient, each participant could be commensurately punished. Now, while the danger is in the public mind, is the proper time to prepare for the next crop of diploma mill products. It is the duty of each state board to cooperate in, and inaugurate, if necessary, the endeavor to secure in its own state legislation making it a felony to participate in the issuance, selling or receipt of an unearned diploma of medicine or of any other profession that relates to public health.

Revocation of License

Dr. K. P. B. Bonner, Morehead City, N. C.: The unworthy licentiate is a menace to the public, a discredit to the profession and a reflection on the licensing board. The agency vested with the power of licensing should have the power of unlicensing where necessary. Habitual imtemperance, convictions in court of crimes involving moral turpitude, criminal abortion, fraud and unprofessional conduct are generally accepted among the states as sufficient grounds on which a license may be withdrawn. These are named in the order of their popularity, and are specifically incorporated in the laws of thirty-eight, thirty-five, thirty and twenty-seven states, respectively. Demoralizing and deceptive advertising and gross immorality are less generally recognized as causes. Many states have set up in the statutes obviously just causes for revocation of license, but have made the enforcement of the law almost impossible by the insertion of a useless qualifying clause. It is surprising how limited are the causes for action in some states. Two states have no provisions of law permitting a license to be revoked. Direct correspondence with these boards reveals that licenses are revoked in each of these states. It would be interesting to know how the courts would view such procedure on appeal from the decisions of these boards. The section permitting withdrawal of license should be brief, but at the same time should cover every phase of misconduct. As far as possible, the board should have wide discretionary powers, and it should be made clear that such powers were vested in it. If too many qualifying clauses are inserted, it is possible that the primary object of the law will be defeated. The necessary machinery should be set up legally providing for the conduct of hearings, and investing the board with the power to issue summonses and to administer oaths. Above everything else, the power to revoke a license should be vested in the board. The law should provide, in cases of guilt, for degrees of punishment. With such discretionary powers, there is no necessity of making provision for future restoration of license.

Annual Registration of Physicians: Reregistration in Iowa

Dr. Don M. Griswold, Des Moines, Iowa: In 1906 there were about 5,000 persons practicing medicine in the state of Iowa, as nearly as can be estimated. Shortly after this date the work of the committee of medical education of the American Medical Association began to be felt. The supply of poorly trained physicians was being shut off at its source. It can be said with truth and justice and should be proclaimed from the housetops that the medical profession has "cleaned its own kitchen." As a result of the tireless and unceasing work of its board members, who were guided and directed by the Council on Medical Education of the American Medical Association, this important work has been done. The barriers at the front door of our profession are sufficiently high and sufficiently strong to withstand any assault. This state of affairs gives us time to look about for the other avenues of entrance than the "front door." Every fraudulently used license that is not meaningless or an outright forgery has been issued honestly to some one. These licenses that have no termination go on serving a purpose for some fraud, years after the man who earned it was sleeping in his grave. The license of a dead physician may be innocently sold as part of the assets of an estate. To frustrate this entrance from the "side door," several states, including Iowa, require an annual reregistration of the license to practice medicine. The holder of each license is addressed annually and asked whether he wishes to use his license during the coming year. If he does, he pins his check for one dollar to the enclosed card and returns it to the office of the board. If the licensee has died, retired, moved away or for any other reason does not receive the notice, the postmaster, family or friends notify the board and proper record is made of the fact.

DISCUSSION

Dr. T. J. Crowe, Dallas, Texas: Men are going about the country, or were, using old diplomas and using old license certificates, simply taking out the name and inserting the name of another man, many of whom had been dead twenty years. Texas has tried to overcome that thing by issuing its license certificate on bank note paper, so that it cannot be changed or erased without detection. Dr. Waite's work, I think, was well done, but I think he made rather a doubtful use of it in publishing to the world that the state boards of this country are of doubtful caliber.

Dr. James Stewart, Jefferson City, Mo.: Dr. Waite's paper was one of the most interesting papers that I have heard. I have heard a lot about diploma mills. I want to add one more mill, and that is the state certificate mill. I want to ask you how can all of these men who have graduated from these inferior schools and from schools of no standing whatsoever, without any premedical education, come before state boards of health and get state certificates to practice medicine? There have been numbers of men in Missouri, and I guess elsewhere, who have paid all the way from $250 to $2,800 for state certificates to practice medicine.

Dr. David Strickler, Denver: I think it is very desirable that the annual registration should be carried out in Colorado. We have no data in our office to tell how many of these frauds are in the state at the present time. I should like to know whether in annual registration returns you simply give the name and address of the physician or whether you give any information as to the school he graduated from and when. The conditions on which he was licensed, it seems to me, would be good information.

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Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

ALABAMA

Health at Birmingham.—Telegraphic reports to the department of commerce from seventy cities with a total population of 29,000,000 for the week ending March 13 indicate that the highest mortality rate (27.4) is for Birmingham, while the rate for the group as a whole was 17.7. The mortality rate for Birmingham in the corresponding week of last year was 21.5, and for the group of cities as a whole, 15.

ARIZONA

State Medical Meeting.—The annual meeting of the Arizona State Medical Association will be held at Globe, April 26-28, under the presidency of Dr. Roderick D. Kennedy, Globe, and with the Gila County Medical Society acting as hosts; among the speakers will be Dr. William F. Braasch, Mayo Clinic, Rochester, Minn., "The Recognition and Treatment of Urinary Infection"; Dr. Charles C. Browning, Los Angeles, "The Influence of Focal Infection in Relation to Tuberculosis"; Dr. George Dock, Pasadena, Calif., "Iron Therapy; New Light on an Old Subject"; Dr. James F. Cooper, American Birth Control League, New York, "Contraceptive Technic"; Dr. Ancil E. Martin, Phoenix, "Tularemia"; Dr. John W. Flinn, Prescott, "The Pathology of Bone and Joint Tuberculosis," and Dr. Will G. Shultz, Tucson, "Ureteral Calculi." There will be a general meeting in the evening open to the public. Dr. George A. Bridge, Bisbee, is the president-elect.

CALIFORNIA

Society News.—The fifth annual meeting of the Pacific Coast Association of Anesthetists will be held in Oakland, April 28-May 1, with headquarters at the Hotel Oakland.——The April 1 meeting of the Los Angeles County Medical Association was a joint meeting with the pediatric society; the subjects discussed were "Measles," "Scarlet Fever," "Diphtheria" and "Intradermal Vaccination for Smallpox."

Licenses Revoked and Suspended.—At the regular meeting of the board of medical examiners of the state of California, Los Angeles, March 9-11, the license to practice as a physician and surgeon in the state of the following named persons was revoked:

Dr. William A. Strole, 323 West Sixth Street, Los Angeles; Dr. Robert W. Renwick, 5975 Moneta Avenue, Los Angeles; Dr. Charles K. Holsman, 1134 Market Street, San Francisco; Dr. Herbert E. Bogue, 11401 Santa Monica Boulevard, Sawtelle, Los Angeles County.

The licenses of the following physicians were suspended:

Dr. Ludwig H. Wolfsen, 848 Tenth Street, Modesto, for a period of one year; Dr. Frederick K. Lord, Ceres, for a period of one year. The period of probation of Dr. Olaf A. Kvello, Hemet, was continued for two years, with the further condition that he surrender his federal narcotic permit and his federal alcohol permit, both in his own behalf and on behalf of the hospital which he conducts, and that he neither apply for nor receive during the coming two years a federal narcotic permit or a federal alcohol permit.

CONNECTICUT

Amedeo Pasciuta Fined.—Amedeo Pasciuta, Meriden, was found guilty of practicing medicine without a license, in the New Haven Superior Court recently, and fined $100. Pasciuta claimed to be a graduate of the St. Louis College of Physicians and Surgeons in 1923; he was the only person passed by the Connecticut Eclectic Examining Board in 1925. The state department of health, however, declined to license Pasciuta on the ground that he was not graduated from an eclectic school.

DISTRICT OF COLUMBIA

The Kober Lecture.—Dr. Oscar B. Hunter, assistant dean and professor of bacteriology and pathology, George Washington University Medical School, was chosen by the Medical Society of the District of Columbia to deliver the lecture of the Kober Foundation at Gaston Hall in the Healy Building of Georgetown University, March 28. The subject of the lecture was "The Pathological Elements Underlying Myocardial Degeneration, Cardiac Failure and Cardiac Rupture Resulting from Acute and Chronic Occlusion of the Coronary Vessels" (illustrated with lantern slides).

GEORGIA

Personal.—Dr. James D. Manget, Atlanta, has been elected president of the staff of the Georgia Baptist Hospital.——Dr. George T. Olmstead has been elected medical director of the Savannah Hospital, to succeed Dr. Robert V. Martin.——Dr. J. E. Lester, Acworth, has been appointed health officer of Cobb County.——Dr. D. H. Monroe has been elected health officer of Cartersville, and also district health commissioner for Bartow County.——Dr. J. W. Wallace, Thomasville, has taken up his duties as county health officer of Thomas County.——Dr. John M. T. Finney, Baltimore, recently, was the guest of the Richmond County Medical Society, Augusta.

ILLINOIS

Lectures on Mental Hygiene.—Seven lectures will be given in Springfield between March 26 and May 7, by the Illinois Society for Mental Hygiene under the auspices of the Springfield Council of Social Agencies; among the lecturers will be Dr. H. Douglas Singer and Dr. Paul L. Schroeder, April 9, and April 29, on "Behavior Difficulties of Adolescents and Adults," and "Behavior Difficulties of Young Children," respectively.

Chicago

Informal Reception at Rush.—The faculty and student council of Rush Medical College of the University of Chicago held an informal reception in the library of the new Rawson Building, April 9, at 8:15; Dr. Frank Billings, for many years dean of the faculty of Rush College, gave an address.

Annual Dental Clinic.—The Chicago College of Dental Surgery will celebrate its forty-third anniversary with a "Home Coming Clinic," April 12-13, at the school, 1747 West Harrison Street.; the classes of 1886, 1891, 1896 and 1901 will be the guests of the college and the Alumni Association. There will be a banquet, Monday evening, April 12, at the La Salle Hotel.

Society News.—A dinner was held at the Hamilton Club, March 24, by members of the Chicago Medical Society in honor of Dr. Edward Starr Judd, Rochester, Minn., who addressed the society on "Cholecystitis with Consideration of Some of the Associated Problems."——Dr. Carl A. Hedblom will address the Chicago Tuberculosis Society, April 8, on chest surgery.——Prof. Robert H. Gault, Ph.D., of Northwestern University, Evanston, was the guest of honor of the Chicago Laryngological and Otological Society, April 5.——Dr. Solomon Strouse and Chi Che Wang, Ph.D., addressed the Chicago Society of Internal Medicine, March 22, on "Effect of Mechanical Work on Heat Production in Obese Individuals."——The dental operating room and the oral surgery unit in the new Passavant Memorial Hospital will be dedicated as a memorial to George H. Cushing, D.D.S., who founded the Chicago Dental Society and the Illinois Dental Society, and was one of the organizers of the American Dental Association.——The April 7 meeting of the Chicago Medical Society was a joint meeting with the South Branch; there was a symposium on "The Decompensating Heart," in which Drs. Isaac A. Abt, Joseph B. De Lee, Charles L. Mix and James Monahan took part.——The Chicago Roentgen Society will meet jointly with the Central Radiological Society of Illinois in Champaign, May 18, in addition to its regular meeting in May.——Dr. Arthur Steindler, professor of orthopedics, State University of Iowa College of Medicine, Iowa City, addressed the Chicago Orthopedic Society, April 9, on "Scoliosis."——Among others, Dr. Harry L. Parker, Mayo Clinic, Rochester, Minn., will address the Chicago Neurological Society at the Drake Hotel, April 15, on "Involvement of the Central Nervous System Secondary to Primary Carcinoma of the Lung."

INDIANA

Personal.—Dr. Lafayette Page, Indianapolis, has been elected president of the Indiana Academy of Ophthalmology and Otolaryngology; Dr. Louis D. Brose, Evansville, vice president, and Dr. Daniel S. Adams, Indianapolis, secretary-treasurer.——Dr. John E. Luzadder, Bloomington, has been appointed secretary of the Monroe County Board of Health.——Dr. Harold J. Norton has been appointed a member of the board of health of Columbus.

Another Package Library.—A package library service for the medical profession of Indiana has been proposed at the state university, which would be similar to that established in Wisconsin through the cooperation of the state medical society and the University of Wisconsin, and that of the American Medical Association. The classifications will probably be made by the librarian of the Indiana University School of Medicine, and will consist of reprints, clippings from medical journals and of addresses before medical societies. Physicians may communicate, says the *Indianapolis Medical Journal*, with Mrs. Edna Hatfield Edmonson of the extension division of the state university or with the librarian of the state medical school. When the service is fully established, packages may be obtained for two weeks on request, free of charge, except postage one way.

IOWA

Personal.—Dr. Anthony P. Donohoe has been elected president of the staff of Mercy Hospital, Davenport, and Dr. James R. Guthrie, president of the staff of St. Joseph's Mercy Hospital, Dubuque.——Dr. William M. Park, Indianola, celebrated his fiftieth anniversary in the practice of medicine, March 1.——Dr. Franklin C. Hull, Carlisle, celebrated the fiftieth anniversary of his graduation in medicine, February 16.——Dr. Alvin H. Hendrickson has been appointed county physician at Sioux City.

Society News.—Dr. Ernest Sachs, St. Louis, conducted a clinic on brain lesions at Des Moines, March 9, and in the evening addressed the Des Moines County Medical Society on "Brain Injuries"; April 13, Dr. Edward H. Skinner, Kansas City, will address the society on "The Recognition and Management of Malignancy of the Uterus"; Dr. Skinner will address the high school assembly on "Cancer" in the forenoon, a union meeting of various clubs at noon, and a group of nurses in the afternoon.——Dr. Charles J. Drueck, Chicago, addressed the Des Moines County Medical Society, Burlington, recently, on "Practical Points in Proctology."

KENTUCKY

Superintendents Transferred.—Dr. W. M. Elliott, superintendent of the Central State Hospital, Lakeland, has been transferred to the superintendency of the Feeble Minded Institute at Frankfort, and Dr. Wallis W. Durham, superintendent of the Western State Hospital, Hopkinsville, has been appointed superintendent of the Lakeland Hospital. Dr. Elliott succeeds Dr. Thomas L. Taylor at Frankfort, who resigned to accept a hospital position in Hawaii.

MARYLAND

Exchange Professors.—Arrangements have been completed for an exchange of professors between the Johns Hopkins School of Hygiene and Public Health and the London School of Hygiene and Tropical Medicine. Robert W. Hegner, Ph.D., professor of protozoology at Johns Hopkins University School of Hygiene and Public Health, left for London, March 31. Dr. John G. Thomson, director of protozoology at the London institution, arrived in New York, March 26, and is expected in Baltimore within the next few days. The exchange of professors, which will cover a period of about six months, is the result of an arrangement between Dr. Andrew Balfour, director of the London school, and Dr. William H. Welch, director of Johns Hopkins University School of Hygeine and Public Health, for furthering an exchange of ideas and comparing the personnel and methods of the two institutions. This is the second exchange that has been made by the Johns Hopkins School of Hygiene and Public Health. The first was effected two years ago between the Hopkins department of medical zoology and the Peking Union Medical College of China, when William W. Cort, Ph.D., the Johns Hopkins University School of Hygiene and Public Health specialist in helminthology, was exchange professor.

MASSACHUSETTS

Personal.—Dr. Harry H. Nevers, for eighteen years city bacteriologist of Lawrence, has resigned.——Dr. S. Burt Wolbach, professor of pathologic anatomy, Harvard University Medical School, Boston, addressed the scientific staff of the Rockefeller Institute for Medical Research, New York, March 26, on "A Résumé of Rickettsia Research."——Dr. Frederic J. Cotton gave a luncheon at his home recently in honor of Dr. Dean Lewis of Johns Hopkins University Medical School, Baltimore, which was attended by a number of prominent surgeons of Boston.

Boston City Hospital.—A new maternity building for the Boston City Hospital will be erected at Concord and Albany streets, for which $750,000 has been appropriated; $250,000 has been appropriated according to the *Boston Medical and Surgical Journal*, for a research laboratory for the study of streptococcic infections. There has been erected a new outpatient building and a new roentgen-ray laboratory, and plans for other additions have been approved. During the year ending Jan. 31, 1925, more than 21,000 patients were admitted to the hospital and 210,173 treated in the outpatient departments. The total expenditures noted in the annual report amounted to $1,686,737.04, while the payments for services rendered to patients, including receipts from the state and cities and towns, amounted to $173,503.83. All departments for the care of patients, it appears, have been overcrowded, and larger facilities are needed.

MICHIGAN

Faculty Promotions at the University.—The board of regents of the University of Michigan, Ann Arbor, made the following promotions in the faculty of the medical school, February 25; Elizabeth C. Crosby, Ph.D., to be assistant professor of anatomy; Henry C. Eckstein, Ph.D., to be assistant professor of physiologic chemistry; Albert G. Young, Ph.D., to be assistant professor of pharmacology, and Daniel A. McGinty, Ph.D., Alrick B. Hertzman, Ph.D., and Detlev W. Bronk, M.S., to be assistant professors of physiology.

Society News.—Dr. John Phillips, Cleveland, addressed the Wayne County Medical Society, Detroit, March 9, on "Angina Pectoris"; Dr. George W. Crile, Cleveland, addressed the society, March 15.——Dr. William E. Shackelton addressed the Kent County Medical Society, Grand Rapids, March 24, on "Hernia of the Stomach Through the Diaphragm," and Dr. Augustus W. Crane, both of Kalamazoo, on "Acute Intestinal Obstruction."——Dr. Philip H. Kreuscher, Chicago, addressed the Wayne County Medical Society, March 23, on "Backache"; the meeting of the society, March 30, was in charge of the entertainment committee.

MINNESOTA

Society News.—Dr. Smiley Blanton addressed the Minnesota Academy of Medicine, March 10, on "Some New Applications of the Principles of Psychological Medicine."——Dr. Jacob Harry Bendes, Oak Terrace, was elected president of the Minnesota Sanatorium Association at the annual meeting; Dr. William D. Beadie, Cannon Falls, a vice president, and Beatrice E. Lindberg, St. Paul, secretary.

Lowest Birth Rate in Fifteen Years.—The secretary of the state board of health is said to have reported, March 24, that the birth rate in 1925 in Minnesota was the lowest in fifteen years, 20.9 per thousand of population. There has been a steady decline in the birth rate in the state since 1921, when it was 24; in 1910, however, the birth rate was 20.1, and in 1915 was the highest in recent years, 24.6.

MISSOURI

Personal.—Dr. H. I. Spector, St. Louis, announces that he has resigned his position as tuberculosis controller of St. Louis and hereafter will devote all his time to private practice.——Dr. Robert E. Crabtree has been appointed deputy health commissioner for Bates County.

Report on Medical Schools.—The report filed in the supreme court, March 6, by Special Commissioner Edwin J. Bean, recommended that the charters of the Kansas City College of Medicine and Surgery and the St. Louis College of Physicians and Surgeons be revoked; both of these schools have been repeatedly mentioned in the exposure of the medical diploma mills.

NEW HAMPSHIRE

New Hampshire Surgical Club.—The twenty-eighth semiannual meeting of this organization will be held at Nashua, Tuesday, April 27. The operative clinic will be held at St. Joseph's Hospital, beginning at 10 a. m.; in the afternoon there will be a discussion of the morning's work and the presentation of papers at the Nurses' Home of the Memorial Hospital. There are 200 regular members of the New Hampshire Surgical Club, all of whom, as well as the honorary members in other states, will be cordially welcome at this meeting.

NEW YORK

Rabies in Dogs.—There were 144 cases of rabies in dogs in New York in 1925, according to the Department of Farms and Markets, and ninety-seven of them occurred in Westchester county; thirteen rabid dogs were discovered in Nassau county at Hempstead in the five weeks ending February 26, and that was the same number, it is reported, which had been found in Hempstead in the previous nine months.

Resignations at State Hospitals.—The February number of the *State Hospital Quarterly* notes the resignations of the following physicians at the state hospital indicated:

Dr. Joseph L. Abramson, assistant physician in Kings Park State Hospital.
Dr. Theodore Gallup, assistant physician in Kings Park State Hospital.
Dr. Paul M. Jerrell, assistant physician in Gowanda State Homeopathic Hospital.
Dr. John W. Ross, assistant physician in Hudson River State Hospital.
Dr. Emanuel Allen Schiffman, assistant physician in St. Lawrence State Hospital.
Dr. Kathleen M. White, assistant physician in St. Lawrence State Hospital.

State Medical Election.—At the annual meeting of the Medical Society of the State of New York, New York, March 29-April 1, Dr. George M. Fisher, Utica, was elected president; Dr. James E. Sadlier, Poughkeepsie, president-elect; Drs. John E. Jennings, Brooklyn, and George M. Cady, Oswego, vice presidents; Dr. Daniel S. Dougherty, New York, secretary, and Dr. Charles Gordon Heyd, New York, treasurer. Dr. Edward Eliot Harris, New York, was elected speaker of the House; Dr. Harry R. Trick, Buffalo, vice speaker, and Drs. William H. Ross, Brentwood, Nathan B. Van Etten, New York, and Frederick H. Flaherty, Syracuse, trustees.

New York City

University News.—Columbia University is offering a five weeks course in internal medicine for qualified graduates in medicine from June 14 to July 16, and registration for this course closes May 22; it will be a practical course in the wards and laboratories of the Presbyterian Hospital. The fee is $100.

Dr. Landis Cited.—The state board of medical examiners summoned Dr. Leonard Lincoln Landis, New York, March 29, it is reported, to appear before the board in Albany, April 10, to show cause why his license to practice should not be revoked. The evidence on which the state board's summons was based is said to have been obtained recently.

Gifts to Medical School.—Chancellor Brown announces that, during the current year, gifts amounting to $29,000 have been made to New York University and Bellevue Hospital Medical College for use in various departments. R. T. Crane, Jr., Chicago, for the second year, has given $4,000 for the study of anaphylaxis, which is being carried on under Holmes C. Jackson, Ph.D., by Dr. A. Bret Ratner of the department of children's diseases; $10,000 was given to the school, anonymously, through Dr. John M. Wheeler for experimental work in ophthalmology, and $10,000 was given by Mr. Littauer for studies in the prevention and treatment of pneumonia.

OHIO

Personal.—Dr. Lyman A. Adair, Wooster, has been appointed acting county health officer to succeed Dr. Clarence D. Barrett, who resigned to become health officer at Mansfield.——Dr. Ralph W. Holmes Chillicothe, was elected secretary of the Ohio Society for Crippled Children at the recent annual meeting of the society in Columbus.——Dr. Stanley E. Dorst, Cleveland, has been appointed assistant professor of internal medicine at the University of Cincinnati College of Medicine.——Dr. Roger G. Perkins has been elected chairman of the Cleveland Health Council.——Joseph Webb has been elected chief surgeon of the Springfield City Hospital.——Dr. James B. Poling has been reelected health commissioner of Lima for a five year period; Dr. Poling completed, April 1, the unexpired term of the late Dr. Arthur L. Jones.

State Medical Meeting.—The eightieth annual meeting of the Ohio State Medical Association will be held at Toledo, May 11-13, with headquarters at the Secor Hotel. The first general session will be combined with the first session of the house of delegates, May 11, 9:30 a. m.; the president Dr. Clarence D. Selby, and the president-elect, Dr. Leora G. Bowers, will deliver their addresses, May 11, at 8 p. m., when there will be an informal reception and dance. In addition to the Ohio physicians on the scientific program, addresses will be given by Dr. Foster Kennedy, Cornell University Medical College, New York, on "The Medical Expert in the Courts"; Dr. Stewart R. Roberts, Atlanta, Ga, "Functional Pressure Versus Structural Sclerosis"; Dr. Frank B. Granger, Boston, "Medical Diathermy"; Dr. Gordon B. New, Mayo Clinic, Rochester, Minn., "Newer Methods and Procedures in Plastic Surgery," and Dr. George W. Hall, Chicago, "Mental Disturbances as Observed in a General Hospital." The clinics to be held at various hospitals, May 10, will be announced on bulletin boards of hotels, May 9. The sixth annual tournament of the Ohio Medical Golfing Association will be at the Inverness Club, May 10.

OKLAHOMA

Illegal Practitioner Fined.—The *Journal of the Oklahoma State Medical Association* notes that William McNabb was recently arrested in Enid for practicing medicine without a license, and was fined $150 and costs.

Crippled Children's Clinics.—Under the auspices of the Oklahoma Society for the Care of Crippled Children, Drs. Samuel R. Cunningham, Oklahoma City, and William Patton Fite, Muskogee, held clinics at Wagoner and Talequah, February 26-27, for the crippled children of Wagoner and Cherokee counties.

Osteopath Charged with Manslaughter.—Albert L. Black, an osteopath of Guthrie, has been charged with manslaughter, it is reported, following the death of an 8 year old boy during an operation for removal of his tonsils. The trial involves the construction of the law to decide whether an osteopath is allowed to perform tonsillectomies in Oklahoma.

PENNSYLVANIA

Society News.—Dr. Arthur C. Morgan, professor of applied therapeutics, Temple University School of Medicine, Philadelphia, addressed the Northampton County Medical Society, Easton, March 19, on "Treatment of Acute Cardiac Tragedies."——The annual meeting and election of officers of the Allegheny County Medical Society will be held at the William Penn Hotel, Pittsburgh, April 15.——Dr. Dean Lewis, chief surgeon, Johns Hopkins Hospital, Baltimore, addressed the Westmoreland County Medical Society, Greensboro, April 6, on "The Treatment of Fractures and Their Complications."

Philadelphia

Funds for Research Bureau.—The late George S. Cox, who left an estate of several million dollars, provided that within ten years after the death of his widow, his real and personal property should be transferred to a fund to establish a research bureau whose object will be to discover a cure for diabetes and to pursue any other line of medical research that the director of the bureau may think best. Dr. Levi J. Hammond, an executor and trustee under the will, is appointed director of the bureau with full power to appoint his successor, either by personal appointment or by will. The successive directors are to have the same power to appoint their successors and of managing the bureau. Dr. Hammond has been connected with the Methodist Episcopal Hospital for about thirty years; he is now chief of staff.

Philadelphia's Oldest Hospital.—A new outpatient department is being constructed at the Pennsylvania Hospital, Eighth and Spruce streets. The new building will be on the site of the old "West Picture House," which was erected in 1818 to house the painting by Benjamin West of "Christ Healing the Sick" and which later became the home of the Pennsylvania Historical Society; it probably will be completed by the end of 1926, which will be the one hundred and seventy-fifth anniversary of the founding of this hospital. John Small, said to have been the first outpatient treated in America, was treated at the Pennsylvania Hospital, Dec. 13, 1752; in the records of 1753, Benjamin Franklin wrote that "several outpatients have received the advice of the physicians and the use of the medicine received from London." The outpatient department since then has grown, until last year 58,673 patients were treated. The new outpatient department will be four stories high, and provide almost five times as much room as the department now occupies.

SOUTH DAKOTA

Rush Reunion.—Rush Medical College alumni of South Dakota are requested to meet in reunion at Aberdeen, May 20, during the state medical association meeting; Dr. Rollin T. Woodyatt, Chicago, will speak on "The New Rush."

State Medical Meeting.—The forty-fifth annual meeting of the South Dakota State Medical Association will be held in Aberdeen, May 19-20, under the presidency of Dr. William R. Ball, Mitchell. Among the visiting speakers will be Drs. Vincent J. O'Conor, Chicago (urology); Benjamin F. Lounsbury, Chicago (surgical clinic); Donald A. Nicholson, Seattle (traumatic neuroses); Casper W. Sharples, Seattle (diverticulitis of sigmoid); William R. Murray, Minneapolis (clinic—acute external diseases of the eye); Dr. Frederick Tice, Chicago (medical clinic); Rollin T. Woodyatt, Chicago (diabetic clinic); Maximilian Kern, Chicago (endocrine gland clinic), and Dr. Merrill M. Myers, Des Moines (heart clinic). The meeting will be held at the Orpheum theater. There will be an entertainment at the Country Club in the evening, but no formal banquet.

WISCONSIN

Medical Examiners Meeting.—At the January meeting of the Wisconsin State Board of Medical Examiners, the board voted to raise the endorsement fee from $2 to $10, and to refund $35 on reciprocity fees and $15 on examination fees, when the credentials were unsatisfactory. Two applicants were refused the privilege of writing the January examination, one because his foreign credentials were unsatisfactory, the other because he had only one year of premedical work; two applicants for reciprocity were refused a license because the board did not recognize their schools; namely, the Chicago Medical School and the St. Louis College of Physicians and Surgeons. In the future, no applicant will be permitted to write the examination until he has first satisfied the requirements of the basic science board in accordance with a recent law.

Society News.—Dr. Stanley J. Seeger addressed the Milwaukee Neuropsychiatric Society, March 25, on "Some Impressions of Neurologic Surgery in London."——Dr. Erwin R. Schmidt, professor of surgery, University of Wisconsin Medical School, Madison, addressed the Milwaukee Academy of Medicine, February 23, on "Pituitary Tumors" with report of an unusual case.——Dr. Arthur J. McCarey addressed the Green Bay Academy of Medicine, February 10, on "Physical Examinations."——Dr. Harold E. Marsh addressed the Dane County Medical Society, Madison, February 17, on "Use of Novasurol in Treatment of Edemas."——The Milwaukee County Medical Society devoted its February meeting to a review of the recent advances in the basic sciences bearing on clinical medicine by the full-time professors of Marquette University Medical School. Dr. Gideon Wells, professor of pathology, University of Chicago, will address the Milwaukee County Medical Society, April 9.——Dr. Damon A. Brown addressed the Racine County Medical Society, recently, on "Hexylresorcinol as a Urinary Antiseptic."——At an organization meeting, March 17, at the Milwaukee Children's Hospital, sixteen pediatricians became charter members of the Milwaukee Pediatric Society and elected Dr. Lorenzo Boorse president, Dr. Roy M. Greenthal vice president, and Dr. Mynie G. Peterman, secretary-treasurer.——The Medical Society of Milwaukee County adopted a new set of by-laws at the March meeting; a board of five directors henceforth will conduct the business of the society.

GENERAL

Reunion of Resident Physicians.—Former medical house officers and assistant resident physicians of the Peter Bent Brigham Hospital, Boston, will hold a dinner at the Hotel Adolphus, Dallas, Texas, April 21, at 6:30 p. m. Further information can be obtained from Dr. Henry A. Christian at the Hotel Adolphus after April 18.

Druggists May Sell Malt Tonic.—General L. C. Andrews, assistant secretary of the treasury, and in charge of prohibition enforcement, has granted permits to two well known manufacturers to sell to druggists only a "medicinal malt preparation" which may contain not "in excess of 4 per cent alcohol and must contain at least 25 per cent of solids." In making his announcement, General Andrews states that this new policy was adopted after thorough consideration of the question and will permit the restoration to the market of certain well known and established malt tonics. The manufacturers are required to accept responsibility for their distribution for legitimate purposes and to watch distribution closely and withdraw the product from any market where it appears that the tonic is being held for use as a beverage. General Andrews further states that this is practical and reasonable and is done for the purpose of making these tonics available to those who need them. A malt tonic containing 25 per cent of solids is by no stretch of the imagination a "beer," according to General Andrews. No physicians' permits are required to secure the product from druggists.

National Board of Medical Examiners.—During 1925, the examinations of the National Board of Medical Examiners were completed by 206 physicians, all of whom have been awarded the certificate of the board. There were in this number graduates of eighteen different medical schools, the greatest number from any one being from Harvard (thirty-eight), then Pennsylvania (twenty-six), then Rush (twenty-five), then Johns Hopkins (sixteen), and the least number, three, each from Creighton, Columbia, Illinois, Pittsburgh and Vermont. Examinations in parts I and II will be held, June 21-23, in all class A medical schools in the country where a sufficient number desires to take them. Dr. Walter L. Bierring has been appointed acting chief examiner of the Chicago Subsidiary Board, to succeed the late Dr. Albert C. Eycleshymer; seventeen candidates were examined by this board in January; all of them passed. The third annual meeting of the Associated Diplomates of the National Board will be in Dallas, Texas, during the session of the American Medical Association; the date and place will be definitely announced in the association's daily bulletin during the meeting.

New County Society Presidents.—The following physicians have recently been elected president of the county medical society indicated:

Dr. Otto C. Ahlers, Sherman, Texas, Grayson County Medical Society.
Dr. Alden Alguire, Belvidere, Ill., Boone County Medical Society (reelected).
Dr. John A. Ascher, Freeport, Ill., Stephenson County Medical Society.
Dr. Willet W. Binion, Benevolence, Ga., Randolph County Medical Society.
Dr. Claude M. Bloss, Okemah, Okla., Okfuskee County Medical Society.
Dr. Udonna C. Boon, Chickasha, Okla., Grady County Medical Society.
Dr. Alexander H. Bressler, Manhattan, Kan., Riley County Medical Society.
Dr. Joseph C. Bunten, Augusta, Kan., Butler County Medical Society.
Dr. Malcolm Campbell, Malvern, Iowa, Mills County Medical Association.
Dr. Jacob B. Cato, Hutsonville, Ill., Crawford County Medical Society.
Dr. William M. Cott, Okmulgee, Okla., Okmulgee County Medical Society.
Dr. George A. Clark, Scranton, Pa., Lackawanna County Medical Society.
Dr. Marcus L. Cone, Campbell, Mo., Dunklin County Medical Association.
Dr. James M. Dell, Gainesville, Fla., Alachua County Medical Association.
Dr. George R. Fox, Moreauville, La., Avoyelles County Medical Society.
Dr. Linwood M. Gable, Griffin, Ga., Spalding County Medical Association.
Dr. William P. Greening, Pauls Valley, Okla., Garvin County Medical Society.
Dr. Harry H. Hammel, Tecumseh, Mich., Lenawee County Medical Society.
Dr. Thomas J. Hickman, Lenoir City, Tenn., Loudon County Medical Society.
Dr. Jesse J. Hipes, Colgate, Okla., Coal County Medical Society.
Dr. Joseph W. Hope, Hampton, Va., Elizabeth City County Medical Association.
Dr. Leo W. Hornick, Johnstown, Pa., Cambria County Medical Society.
Dr. Harold L. Hurley, Jackson, Mich., Jackson County Medical Society.
Dr. John L. Jeffress, Ada, Okla., Pontotoc County Medical Society.
Dr. John W. Krohn, Joliet, Ill., Will-Grundy Counties Medical Society.
Dr. William H. Langston, Guyon, Okla., Texas County Medical Society.
Dr. James F. Leslie, Centralia, Wash., Lewis County Medical Society.
Dr. Lambert M. Lundmark, Ladysmith, Wis., Rusk County Medical Society.
Dr. Samuel T. McCabe, Johnsonburg, Pa., Elk County Medical Society.
Dr. Louis P. Munger, Hart, Mich., the Oceana County Medical Society.
Dr. George H. Parmenter, Beecher City, Ill., Effingham County Medical Society.
Dr. David P. Richardson, Union, Okla., Canadian County Medical Society.
Dr. John M. Ritter, Roosevelt, Okla., Kiowa County Medical Society.
Dr. Eugene C. Roseberry, Springfield, Mo., Greene County Medical Society.
Dr. George D. Ross, Liberty Hill, Texas, Williamson County Medical Society.
Dr. Samuel F. Sanders, Holdrege, Neb., Phelps County Medical Association.
Dr. Charles A. Shultz, Alvarado, Texas, Johnson County Medical Society.
Dr. Gust Sjolander, Midland, Mich., Midland County Medical Society.
Dr. Charles E. Slagle, Alliance, Neb., Box Butte County Medical Society.
Dr. Clinton F. Stofflet, Pen Argyl, Pa., Northampton County Medical Society.
Dr. William C. Ussery, Paris, Ky., Bourbon County Medical Society.
Dr. William A. Welton, Terra Alta, W. Va., Preston County Medical Society.
Dr. Thomas M. West, Fayetteville, N. C., Cumberland County Medical Society.

Senate Passes Lye Bill.—The bill to safeguard the distribution and sale of dangerous acids and alkalis was passed by the Senate, April 2. The measure is one which has for a long time been advocated by the medical profession, and provides for a uniform requirement to print the word "poison" in a conspicuous manner on containers of lye and other corrosive substances. The bill was originally introduced by Senator George Wharton Pepper of Pennsylvania; hearings were held by the Senate Committee on Interstate Commerce, when the reasons for the measure were fully presented. Senator James E. Watson of Indiana, chairman of the committee, has taken an active part in the passage of the bill; he wrote the report of the committee which summarized the reasons for the passage of the bill, and was in charge of the measure on the Senate floor. In a colloquy with Senator King of Utah, Senator Watson was able to overcome objections made to the bill. He said, in part:

> Perhaps a dozen states have enacted legislation, but there are many of the states that have not done so. There is where most of the difficulty occurs and there is where the children are poisoned. In response to

1,448 questionnaires sent out to physicians, it was learned that at one time there were 490 cases of this kind under treatment at once. Is there any reason in the world why the word "poison" should not be put on the label? That is all the bill provides. Many of the manufacturers do put the word "poison" on the label and put it on the bottle in legible characters. Some do not do so. Is there any reason why they should not be compelled to do it in order to protect child life and in order to put all of them in the market on equal terms?

It is simply a proposition to label as "poison" the ordinary lye that is used on floors in all the homes of the country. The evidence shows that the ordinary lye that is used on the floors in the homes of the country is sold at practically all grocery stores. A can or bottle of it is left out and a child gets hold of it, puts it in its mouth, and it results in a stricture of the esophagus. There were brought before the committee pictures of many children who were found in that condition and who were treated for the difficulty. The Senator from New York [Mr. Copeland] is perfectly familiar with the whole situation and was present when the hearings were held.

I will state that the proposed legislation is approved by the American Public Health Association, the American Child Health Association, the American Medical Association, and by the American Wholesale Grocers' Association. The interest of the latter organization in the bill is due to the fact that lye and similar substances are sold in all the retail grocery stores. The National Association of Retail Druggists is also in hearty sympathy with the proposed legislation.

FOREIGN

Instances of Injury from Roentgen Rays.—The *Schweizerische medizinische Wochenschrift* brings an appeal signed by the representatives of the five leading medical societies of Switzerland, asking for data in regard to injury from the roentgen rays, or from the apparatus or current, affecting patients, roentgenologists or attendants. They state that the honor of the medical and especially of the roentgenologic science demands this investigation. The fear of frightening the public must not deter as the public is already apprehensive beyond reason. A similar collective inquiry has been going on in Germany.

Practitioners' Week at Paris.—Extensive preparations have been made for the approaching Journées médicales, July 15-19, at Paris. The aim is to present in compact form the latest advances in diagnosis and treatment by practical demonstrations in hospitals and private clinics, arranged especially for the benefit of general practitioners. Each pays 50 francs on registration. The secretary is Dr. Dujarric de la Rivière, 18, rue de Verneuil, Paris. The annex exposition is in charge of M. J. Faure, 42, rue du Louvre, Paris. A few lectures by visiting authorities and numerous excursions are planned, as also the foundation of an international union of physicians, under the initiative of Dr. Decourt, president of the Union des syndicats médicaux de France—organizations for promoting the material interests of the profession. "Vaccination Against Tuberculosis" is to be described by Calmette at the first general meeting, which is to be opened by the president of the republic. Prof. F. Widal will preside thereafter.

Personal.—A volume of his collected works is to be presented to Prof. E. Tanzi, Florence, on his seventieth birthday, during the seventh congress of the Italian Society of Neurology at Turin in April.——A gold medal was presented to Prof. E. Gallemaerts as he reached the retiring age and left the chair of ophthalmology at Brussels. He is president of the Académie de médecine at Brussels.——Drs. José Carracido, professor of biologic chemistry, Madrid, and H. G. Greenish, professor of pharmacy, London, were recently elected corresponding members of the French Académie de médecine at Paris.——Prof. E. Hédon, Montpellier, who recently shared the Monaco prize for his pioneer work on the pancreas, was invited to lecture at the Liége medical school in March.——Dr. L. Severin Petersen has been placed in charge of the newly completed model gynecologic clinic at Bergen.——Dr. L. Fredericq, Liége, has been elected to fill the vacancy from the death of Bergonié in the list of corresponding members of the Académie des sciences at Paris.——Dr. and Col. Demolder presided in the medical section of the third international Congress on Aeronautics held recently at Brussels. Dr. Sand, Brussels, emphasized the importance of aeronautics from the epidemiologic and other points of view besides the military. Among the resolutions adopted was one urging standardization of parts, arrangements, etc., and one appealing to manufacturers to provide protection for the head of the aviator, as nearly all the accidents result from being flung against the posts and wall of the plane.——The semireclining marble statue of Professor Ramón y Cajal was recently unveiled in the Madrid park. It stands on a high rectangular pedestal in the center of a square pool fed by two fountains. The rear wall of the pool towers higher than the statue and bears bronze inscriptions and a bronze lifesize figure of Wisdom. Cajal shared with Golgi the Nobel prize in medicine in 1906.

Deaths in Other Countries

J. F. Gemmill, professor of natural history, University College, Dundee, by drowning, February 10.——**Henry Rayner**, former vice president of the Section of Psychology of the British Medical Association and coeditor of the *Journal of Mental Science*, February 8, aged 84.——**Dr. Sigmund Exner**, professor of physiology, Vienna, aged 80, a pioneer in the localization of function in the cortex, in the physiology of light and vision, and in applied acoustics. He was also the founder of the "Phonogrammarchiv."——**Dr. A. Felsenreich**, Vienna, formerly professor of gynecology and obstetrics, aged 78.——**Dr. Johannes Gad**, emeritus professor of physiology at the German University of Prague, aged 84. In 1887 he founded, with Exner, the *Zentralblatt für Physiologie*, and in 1893 he aided in organizing the work in experimental physiology at the Western Reserve University, Cleveland.——**Dr. Van der Vloet**, Brussels, former president of the Société belge de neurologie and founder of the St. Vincent Hospital at Antwerp.——**Dr. S. Patellani-Rosa**, for whom a chair on social eugenics was founded at the University of Milan, aged 57.——**Dr. E. Roos**, Freiburg, professor of internal medicine, aged 59.——**Dr. Castilho Marcondes**, Rio de Janeiro, the pioneer in bronchoscopy and esophagoscopy in Brazil, aged 36.——**Dr. E. Labat**, professor of obstetrics at Toulouse, with an extensive rural practice, contributor to the *Revue des deux mondes*, aged 72.——**Dr. J. Barsony**, professor of gynecology at Budapest, aged 66.——**Dr. K. Reifferscheidt**, professor of gynecology at Göttingen, aged 52.——**Mme. Kouindjy**, wife of Dr. P. Kouindjy, one of the first women physicians to practice in Paris.——**Dr. William Charles Sullivan**, medical superintendent of Broadmoor Criminal Lunatic Asylum, England, March 1, aged 56.

Government Services

Training Camps for Reserve Officers

Two fifteen-day training camps for medical reserve officers will be conducted at Carlisle Barracks, Pennsylvania, one, June 16-30, the other, July 4-18. According to the *Military Surgeon*, the arrangements made thus far provide for a schedule of training as follows: first corps area, Three Hundred and First Medical Regiment, July 4-18; second corps area, Three Hundred and Second, Three Hundred and Third and Three Hundred and Twenty-Third Medical regiments, June 14-30; and 100 officers, July 4-18; third corps area, Three Hundred and Forty-Third, Three Hundred and Sixty-Fourth and Three Hundred and Sixty-Fifth Medical regiments, June 16-30; fourth corps area, Three Hundred and Seventh Medical Regiment, June 16-30. The dates for the training of four medical regiments from the fifth corps area had not yet been selected. The first medical regiment of the regular army stationed at Carlisle Barracks, and several hundred R. O. T. C. students in camp during these periods will participate in the program of instruction for reserve officers. Officers assigned to a medical regiment will receive practical training in the operation of the various components of the regiment. Opportunities will be afforded to see many other recent developments in medical department organization.

Plans for Veterans' Bureau Hospitals

The director of the U. S. Veterans' Bureau is preparing plans for increasing the capacity of the new hospital at Great Lakes, Ill., by about 300 beds. It is proposed to start the work before the end of this fiscal year, and to expend on the project about $600,000. There will be three additional buildings for patients, an auditorium, a recreation building and an administration building.——Additional construction is contemplated for the veterans' hospital at Palo Alto, Calif., which will provide 300 additional beds, an administration building, and nurses and attendants' quarters at a cost of about $900,000. Among the larger projects for which preliminary plans are being made by the Veterans' Bureau, are a 300-bed neuropsychiatric hospital to be erected near Boston, at a cost of $1,350,000; a 250-bed tuberculosis hospital at Tucson, Ariz., to cost $1,000,000, and the replacement of the present hospital at Alexandria, La., at a cost of $1,400,000; additional officers' quarters will be erected at Aspinwall, Pa., and various other hospitals will be redecorated.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 13, 1926.

Endowment of Research at the London Hospital

It has been decided to devote the gift of $250,000 recently made to the London Hospital by an anonymous donor for the endowment of research into the causes of disease to paying salaries to research workers, "so that men and women may have more opportunity of taking up research as a life work and not simply as a stop-gap until some more lucrative branch of medicine is opened to them." The following dispositions have been made: 1. An annual scholarship in pathology of $500 a year, open to students from Oxford and Cambridge. Selection is made by examination. It is hoped by this scholarship for junior men to keep in touch with those who have a leaning toward research; it gives such men an opportunity of showing their capacity in laboratories attached to a great hospital. 2. A research fellowship of $2,000 per annum, tenable for three years. The candidate must be a whole-time worker and devote his time to a subject chosen for him. Such a man would act as an assistant to a senior research worker. 3. Two senior pathologists, who will receive the remainder of the money available, and who will devote their whole time to research work of their own choosing. The two pathologists appointed for this purpose are Dr. S. P. Bedson of the Lister Institute, and Dr. W. Howard Florey, at present John Lucas Walker Scholar of Cambridge University and working in America on the Rockefeller Foundation. The work will be carried out in the Hale and Dunn laboratories of the London Hospital, and the staff, material and equipment of these laboratories will be at the service of these workers.

Vital Statistics

The lowest birth rate in England and Wales for any fourth quarter of the year, apart from the war year of 1917, and the highest death rate since the influenza epidemic of 1918, were recorded during the last quarter of 1925. Quarterly returns for that period show that the births registered numbered 166,416, and were 4,511 below the number recorded in the corresponding quarter of 1924. The births registered in the quarter corresponded to an annual rate of 17.0 per thousand of the estimated population. The deaths numbered 126,274, 17,639 more than in the corresponding quarter of 1924. During 1925, 710,979 births and 473,006 deaths were registered. The natural increase of population by excess of births over deaths was therefore 237,973, as compared with an average annual increase in the preceding five years of 349,045. The number of persons married during the year was 590,332. The marriage rate in England and Wales during the year was 15.2 per thousand, the birth rate 18.3, and the death rate 12.2. The birth rate was the lowest recorded except during the war years 1917 and 1918; the death rate was equal to the rate recorded in 1924.

Distemper Research

The project of the *Field* to investigate the causes and cure of canine distemper—one of the most prevalent and most obscure diseases—by means of "the Field Distemper Fund" was reported previously in these columns. A report has now been issued which contains the following: "Our program has involved entirely new methods of research and progress. The source of distemper has been proved to be an invisible extremely minute organism or virus capable of passing through filters that will hold back all ordinary microbes or bacteria. Though this virus cannot yet be grown or propagated in a test tube, it has already been stored by appropriate methods for over a fortnight. Though our observers are not yet satisfied in every detail of their proof, they are already well on the way toward bestowing immunity from distemper on ferrets, animals which are particularly susceptible to the disease; and this, of course, is the first step toward giving immunity to dogs themselves."

Reduced Charges for Laboratory Tests

Considerable hostility in certain quarters has been aroused by the announcement that the Institute of Pathology at Charing Cross Hospital has inaugurated, at the suggestion of Dr. Fenton, dean of the medical school, a system of cut rates for every pathologic, bacteriologic or chemical examination performed, and this will be available to the middle classes, through the medium of physicians all over the country. The differences in prices are shown by the following comparisons:

	Charing Cross	Elsewhere
Wassermann blood reaction......	$1.25	$ 5.00 upward
Typhoid test	.60	2.50 upward
Blood counts for anemia.........	2.75	10.00
Tuberculosis test	.50	2.50 upward

Dr. Fenton says in the press: "Every single physician in the country can make use of our service. We have now been doing it for a fortnight. The first day we made 50 cents and yesterday we made $20. We do not intend to make money out of it. It is a purely philanthropic scheme. We must, of course, make it self-supporting and pay for the extra staff employed. Any money over and above that will be handed back to the public—either by actual donations to charity or in aiding other medical research work."

These low fees have aroused a good deal of criticism, and the powers of the general medical council and the censure of the British Medical Association have been hinted at. Sir William Smith, principal of the Royal Institute of Public Health, has written a letter of protest to the British Medical Association, challenging the right of a hospital to enter the commercial sphere. He also complains that circularizing physicians is a breach of the no advertising rule. The British Medical Association is considering the matter. On the other hand, the staff of the institute professes to be unconcerned and says that the British Medical Association can have nothing to do with the matter as it is not a private affair. "We do not make anything out of it, but we are doing a public service. Our scheme is to meet the needs of the middle class people who cannot afford the exorbitant fees charged for this class of work. We have to do it for hospital patients and so have room for doing it on a large scale. Physicians from all over the country send us blood to be examined. If they could not get this done so cheaply, their patients would have to go without the complete diagnosis."

Contamination of American Apples by Arsenic

In a previous letter (THE JOURNAL, Dec. 26, 1925, p. 2043) the finding of arsenic in American apples was reported. At a meeting of the Society of Public Analysts, Dr. H. E. Cox, M.Sc., read a paper on the presence of arsenic in apples. Attention was drawn to the matter by the occurrence of two cases of illness attributed to the spraying of apples with lead arsenate. He found that only five out of thirty-nine samples of Jonathan, King David and Newtown apples were free from arsenic, and eleven contained more than the statutory limit. The contamination is mainly, but not entirely, confined to the skin, arsenic having been found in the flesh of the fruit to the extent of about 3 per cent of that on the peel. It appears that rain does not remove all the arsenic. Washing under the tap, and even scrubbing, was found to leave appreciable amounts of arsenic on the fruit, presumably owing to combination of the arsenic with the proteins of the skin. A circular has been issued by the ministry of health urging local authorities to examine samples of apples likely to be so affected, and to withdraw from sale any consignments that appear to be injurious.

Professor A. R. Cushny

The death at the age of 60 of A. R. Cushny, M.D., LL.D., F.R.S., professor of materia medica and pharmacology in the University of Edinburgh, removes the foremost worker on pharmacology in this country. Born at Speymouth, Morayshire, he was educated in Aberdeen University and after graduation studied at Berne and Strasbourg, and at the latter university was appointed assistant to the professor of pharmacology in 1892-1893. In 1893 he was elected professor of pharmacology at the University of Michigan, Ann Arbor, which post he retained till 1905, when he returned to this country on his appointment to the chair of materia medica and pharmacology in the University of London. In 1918 he went to Edinburgh to succeed the late Sir Thomas Fraser. There he reformed his department, setting up an experimental laboratory and embarking on plans for the development of physiologic research in its relations to pharmacology. He was one of the first to analyze the mode of action of digitalis on the heart. He established the general principles by animal experiments and then, in collaboration with the late Sir James Mackenzie, made a study of the action of the drug in auricular fibrillation. This formed the basis of much of the work of Lewis and others. His researches on diuretics were of the first importance and he greatly advanced our knowledge of the mode of action of the kidney. He was an authority on the action of alcohol and served on several official inquiries as to the use of that substance as a beverage. His textbook "Pharmacology and Therapeutics and the Action of Drugs" reached its eighth edition and is generally recognized as the leading and most scientific work of the kind. It has had a great influence on the study of pharmacology both in this country and in America. His book on "The Secretion of Urine" was published in 1917. He also contributed much to English and American journals.

BELGIUM

(From Our Regular Correspondent)

Feb. 10, 1926.

New Medical Foundation of the University of Louvain

The Medical Foundation of the University of Louvain has decided to establish a new medical center on the Congo which will comprise (1) a hospital, principally for the natives, with two physicians in charge; (2) a research laboratory under the direction of a doctor of natural sciences, and (3) a training school for nurses. Later, a training school for medical assistants will be established. Since the cooperation of the resident missions is indispensable for the enlistment and the support of pupils, Kisantu has been chosen as the site for the new undertaking. The mission of Kisantu, which has been for thirty years in charge of Belgian Jesuits, has promised to aid the foundation. The association is certain of being able to send each year two or three young medical graduates to Kisantu to serve as assistants for one year.

The Dick Test in Belgium

Dr. Bessemans has reported his experiences with the intradermal Dick test carried out with the toxin of a hemolytic streptococcus in four schools comprising 620 children. The reactions were 31.8 per cent positive, 34.1 per cent protein reactions, and 68.2 per cent negative. The percentage of protein reactions seems to increase with the age of the subjects. The author, therefore, regards the influence of age on the receptivity for scarlet fever and on the hypersensitiveness to ordinary proteins as corresponding to similar phenomena when the Schick test is applied. He confirms the value of the Dick test. In Belgium alone, scarlet fever carries off from three to four hundred children every year.

Alastrim in the Congo Region

Dr. Van Hoof has published a study on alastrim in certain districts of the Belgian Congo. The author considers alastrim or milkpox as a blending of smallpox and chickenpox; but believes that it should be regarded as a distinct disease, for the following reasons: 1. In Stanley Pool, for many years, the author was able to observe cases of smallpox, alastrim and chickenpox side by side, and a number of clinical facts made differentiation possible. Chief among these facts was the low mortality of milkpox. There is nothing to oppose the view that alastrim has developed from smallpox through modification of the virus, but such an assumption does not invalidate the contention that alastrim is a distinct disease. The history of the three affections reveals the gradual substitution of alastrim for smallpox and chickenpox. This lends support to the belief in the development of a varioloid, due to a definite micro-organism less virulent than that of smallpox, yet more virulent than that of chickenpox and foreign to that of cowpox. 2. Vaccination against smallpox failed to protect in the epidemic of alastrim in Stanley Pool. Furthermore, persons who have recovered from alastrim frequently contract cowpox. 3. While the virus of alastrim resembles that of smallpox in its clinical manifestations, it shows little affinity for animals usually receptive to smallpox. It has never been transmitted to rabbits, calves or goats, and one has to resort to an artifice to transmit it to a monkey. Furthermore (*a*) cowpox does not immunize the monkey against inoculation with alastrim; (*b*) alastrim does not immunize the monkey against inoculation with smallpox vaccine, and (*c*) the virus of alastrim immediately affects the monkey so that inoculation by the cutaneous route provokes a generalized condition in most cases. It takes on thus an "allergic" form which it retains on inoculation into man by the cutaneous route. Van Hoof points out that as a therapeutic agent the allergic virus taken from the monkey induces in man earlier and less intense reactions and that these are not followed by generalization phenomena. A state of immunity should be created. If cultivated in receptive animals, it will furnish a specifically active lymph.

Bayer 205 in the Treatment of Trypanosomiasis in Animals

In the veterinary laboratory of Ruanda-Urundi, R. Van Saceghem has been studying the use of Bayer 205 in the treatment of trypanosomiasis in animals. He found the results disappointing after the observations on the use of the drug in treatment of small laboratory animals. Doses of 15 Gm. of Bayer 205 per hundred kilograms live weight are fatal for cattle. At necropsy, lesions of the liver, intestine and kidneys were found, while the blood was not coagulated. Bayer 205 rapidly establishes tolerance. Successive doses, as well as single doses, effect only transient sterilization. Bayer 205 is more active against *Trypanosoma congolense* than against *T. vivax*. A dose of 5 Gm. of Bayer 205 per hundred kilograms live weight will not protect an animal that is inoculated at the same time with 5 cc. of blood infected with *Trypanosoma congolense*.

Floods

The Meuse basin and a portion of the region watered by the Scheldt have suffered serious damage from floods. Numerous committees have been formed to relieve the distress. The king and queen have contributed 2,000,000 francs (about $69,000). The Red Cross of Belgium immediately set to work to provide aid for the sufferers. Numerous contributions, among others, a considerable sum from the American

Red Cross Society, have been received. In addition, the sanitary situation is menaced by the pollution of homes, and in some sections the water supply has been contaminated. All the public services and the health officers are doing their utmost. Physicians in all parts of the country are lending their aid.

GENEVA

(From Our Regular Correspondent)

March 12, 1926.

Influence of Hydrogen Ion Concentration on Anthrax Bacillus

Some important research on the influence of hydrogen ion concentration on the anthrax bacillus has recently been carried on by Dr. S. H. Whitworth at the Institute of Veterinary Pathology of the University of Zurich. The heat resistance of anthrax spores depends not only on the temperature but also on the hydrogen ion concentration of the medium in which they are suspended. Therefore all declarations as to the heat resistance of anthrax spores in liquid mediums or probably in live steam must give not only the time within which the spores die at a certain temperature but also the p_H of the medium. If spores are taken from any solution without being washed, and are then dried, their surfaces will hold a certain amount of substances carried from the medium. If these spores are put in flowing steam, these substances will be diluted again, so that the spore is really surrounded by a film of solution with a certain composition and with a certain concentration of hydrogen ions. Therefore the definition of heat resistance of anthrax spores should give indications of the composition of the medium in which the spores are suspended during heating, or where they have been suspended before drying. It would seem advisable when practicable, in the disinfection of material infected by anthrax spores, to acidify the medium. That viability depends greatly on the p_H of the medium has been shown by other investigators working with other pathogenic organisms. A few species of pathogenic bacteria die after a certain time in the soil. The time in which they die will vary according to the species, the nature of the soil, and the p_H value of the soil. In soil containing a certain proportion of organic material, the hydrogen ion concentration may be changed by bacterial growth to such an extent that the organisms die. On the other hand, the change may be favorable to the existence of spores.

These researches may be thus summarized: The heat resistance of anthrax spores is influenced by the hydrogen ion concentration and the composition of the medium in which they are suspended. The optimal p_H for resistance is in the region of 7.0 (at 85 C.). There is a decrease in the resistance at any temperature, with a decrease in p_H below 7.0. This decrease in the resistance is considerable at p_H 6.5, is very marked at p_H 6.0, and is still more marked with further decrease of p_H. The resistance is decreased with increase in alkalinity, but this decrease in resistance is not so marked as on the acid side. Anthrax spores suspended in fifteenth molar phosphate mixtures show greater resistance to heat at 85 C. than those suspended in broth or in broth + 3 per cent gelatin, and the resistance is greater in the latter than in ordinary broth. There is a great variation in the heat resistance of individual spores. Some spores will survive heating for considerable periods in a medium of very low p_H.

Revision of International Sanitary Convention

At the recent meeting of the permanent committee of the International Bureau of Public Hygiene, a number of questions relating to the revision of the international sanitary convention of 1912 were examined. Detailed attention was given to special provisions which may eventually be proposed concerning the Far Eastern countries. The committee received the report of the fifth session of the committee of hygiene of the League of Nations, held in Geneva in October, 1925, whose resolutions were approved by the international bureau. One of the resolutions of the Committee of Hygiene of the League of Nations was concerned with the forthcoming decennial revision of the international list of diseases and of causes of death. At the last meeting of the international commission (held in 1920), which was charged with the decennial revision, the nomenclature could not be communicated to the interested governments in definite form until 1924. At present only Great Britain and the United States have adopted this nomenclature, and the committee voiced the hope that other nations would adopt it soon. The committee accepted its responsibilities under articles 8 and 10 of the international opium convention, signed at Geneva, Feb. 19, 1925. Communications to the committee concerning cholera in British India show that the Bengal delta is the endemic focus of this disease. The Indian government has undertaken to use all possible measures against cholera. Active propaganda can extend anticholera vaccination among the Asiatic natives without making it compulsory, as is proved by the results obtained in Dutch India. Vaccination of pilgrims against cholera is to be proposed in Egypt. New data were received from British India, Manchuria, Netherlands and the United States on rodents and their cutaneous parasites, and will be published later in the general report.

A plan was considered for research work leading to revision of the pathology and prophylaxis of human variola. This will be carried out through investigations made by members of the committee of the international bureau of public hygiene and the Committee of Hygiene of the League of Nations, competent specialists of different countries and researches in various selected laboratories. Various other communications were received concerning variola and alastrim in Belgium, England and British India.

Papers were presented dealing with the frequency of locomotor ataxia and general paralysis in British India and Bulgaria, and on the results of investigations made in England on the occurrence of these diseases in soldier beneficiaries of war pensions. This investigation was concerned with about 100,000 subjects treated during the war with arsphenamine, who could be closely followed. Of these only ten developed tabes or paralysis. This result favors the thesis that arsenical treatment tends to decrease rather than to increase the proportion of tabetic and paralytic patients. Still, further investigations are necessary, and the committee has decided to examine the influence of race, mode of life and other circumstances on the frequency of tabes and general paralysis in different countries. The malaria treatment of general paralysis will receive further investigation.

A preliminary report on scarlet fever based on investigations made by the committee was discussed. Other papers concerned scarlet fever in Bulgaria, Czechoslovakia, Greece, Japan, Poland, South Africa and Switzerland. Vaccination with Gabritchevsky's vaccine, immunologic experiments, immunization with Dick's toxin and treatment with convalescent serum are all open to investigators. The general opinion was that terminal disinfection has no prophylactic value in scarlet fever and other contagious diseases.

Another discussion revealed the fact that legislation in various countries concerning biologic products and arsphenamine is divergent in its principles and application. Some countries control manufacture of the preparations; others merely control their sale. Various other communications were presented concerning diseases of the Mediterranean basin; infantile kala-azar and other leishmaniases; dissemination of leprosy; epidemic icterus; the part played by railroads in the spread of infectious diseases; scurvy, and the results of combating syphilis in Algeria.

JAPAN

(From Our Regular Correspondent)

Kyoto, March 8, 1926.

New Universities

The opening ceremony of the Korea Imperial University is to be held, April 1. About three weeks before that the following appointments will be made: Prof. Unokichi Hattori, Litt.D., as president, and various professors as deans of faculty in the institution. Appointment of the other professors will be made public after the ceremony at the beginning of April. It is settled that Prof. Dr. Kiyoshi Shiga will be a senior professor of the medical college.

According to the announcement made by the department of education, another imperial university, including a medical college, will be established in Formosa in April, 1928. It is reported that some professors and instructors will be sent abroad to study medical science.

Military Ambulance Airplanes

According to the health department of the League of Nations, the Japanese army has decided to organize an aerial ambulance corps. The newly built planes can carry five men at a time—two patients, an army surgeon, a hospital sergeant major and the pilot. The trial flight made at the Tokorozawa aerodrome some days ago proved that the machine has unique merits.

Fecundity of Young Married Japanese Women

Statistics made public by Dr. Ryuichi Susaki following his investigation of 414 married Japanese women show that the greatest number marry at the age of 19. Next in order are those of 20 and 18 years. Irrespective of the age when married, the majority become pregnant in the third month of married life. In 84.9 per cent of cases the first children were born in the first three years after marriage. Of the 414 women, those who first menstruated at 14 or 15 years of age were most likely to conceive early in married life. Many of those who first menstruated at 14 years of age and married at 22 conceived in the first month of married life. Marriage between acquaintances or relatives gives the highest rate of early conception; that of illicit union, the lowest. Generally speaking, those who conceived for the first time during the first three years of married life were those whose husbands were not more than eight years older than themselves. The interval between the first birth and the second was in most cases from 1.1 to 2.5 years.

Japanese Practitioners in the Far East

The number of Japanese practitioners in China and other parts of the Far East is increasing each year. According to the latest investigation made by the department of foreign affairs of Japan, not less than 600 are in practice in South China, including Shanghai and Hongkong, where their number is respectively larger than in any other place. It is sure that they are practicing medicine in those parts of the world, though it is uncertain whether all of them are registered in the practitioners' list of the Japanese government. In Singapore, Dutch India, and many neighboring provinces and countries, nearly the same number of Japanese practitioners as in South China have also been establishing themselves in practice.

The Keio Dietetic Laboratory

A dietetic laboratory in the Medical College of Keio University will be ready for use by next July. The structure of the laboratory is nearly the same as the rooms for bedside and clinical training in the same institution, except that there is added a culinary room perfectly furnished for research. The faculty will consist of a professor, an assistant professor, two instructors and several assistants. The main object is clinical research in vegetable dietetics under the direction of the professor. Prof. Dr. Kenta Mori is to be head of the faculty, and Mr. Minoru Hara, B.A.S., of the government dietetic laboratory, the assistant professor.

Achard in Japan

Dr. Charles Achard, professor in the University of Paris and general secretary of the medical section of the French Academy, arrived in this country, March 18, for a three months' investigation of medical facilities in Japan. He is scheduled to lecture in each medical college while in Tokyo. The Japan Medical Association, which is to hold its general meeting in April, will ask him to be present as an invited guest.

An Improved Crematory

Dr. Shige Koike of the Sasaki Kyoundo Hospital, Tokyo, has constructed an improved crematory. Recently he made an announcement about his apparatus, which possesses the following merits: It is utterly smokeless and odorless. Since it takes only an hour or so to cremate a body, it is economical of time and money. The bereaved may take back the ashes with them on the day they come. Thus the dignity of the dead is not violated. Since little fuel is needed, the cost of cremating a body is but half a dollar or so. Since neither a chimney nor a big site is necessary, construction is inexpensive. It may be built even in crowded parts of towns. Since it is simple to operate, no expert is needed.

ITALY

(From Our Regular Correspondent)

Feb. 15, 1926.

The Course in Hygiene Organized by the Red Cross Society

The Italian Red Cross Society plans to organize, February 1, its fourth course in hygiene and medical child welfare work in the Emilio Maraini antituberculosis preventorium in Rome. The object of the course is to demonstrate to physicians the modern technic of child hygiene and child welfare. The course will be conducted by Professor Valagussa, director of the preventorium, and will extend over four months, at the end of which time those who have attended will be given a diploma, and, in addition, prizes will be bestowed on those who did especially good work. The Red Cross will regard the diploma as entitling the holder to special consideration in the selection of personnel to aid in carrying out the educational campaign that it expects to launch later.

Donations to Scientific Institutes

In memory of Dr. Ognibene, his widow has recently given the University of Modena 80,000 liras, with which to establish two Ognibene prizes open to students of the college of medicine. To the same university, there has recently been presented about 1,000,000 liras, the gift of Dr. Araoz, director general of the public health service in Argentina and professor at the Faculty of Medicine in Buenos Aires. The money is to be used to found a university institute to promote tuberculosis prophylaxis.

The Twenty-Fourth Congress of Obstetrics and Gynecology

The twenty-fourth session of the Società italiana di ostetricia e ginecologia was held in Rome, December 17-19, under the chairmanship of Senator Pestalozza, professor in the University of Rome. After referring to recent advances in obstetrics, Professor Pestalozza briefly reviewed the history of the Roman school, which, founded by Asdrubali in 1787, numbered among its members some eminent teachers and made noteworthy contributions in its field.

The scientific work of the congress was begun with the paper by Professor Decio, director of the obstetric clinic at the University of Siena, who treated the theme: The Constitutional Type in Relation to Gynecologic Diseases. The essayist recalled the varied criteria on which we must base our determination of the constitutional type. The influence of the type is manifested not only in sexual development but also in the evolution of gynecologic diseases. The writer emphasized that a better knowledge of constitutional factors would result in more rational treatment, and that treatment would consist in procedures intended to improve the constitution of the subject: climatotherapy, physical exercise, hydrotherapy, organotherapy, venesection.

Dr. Temesvary discussed constitutional abnormalities as an etiologic factor in hernias of women. Dr. Orru spoke on a virilism as a result of ovarian tumor, and Professor Bompiani took up venesection in the treatment of some cases of altered menstrual function. A long discussion followed, which was closed by Professor Decio.

The second main theme on the program was "Diseases of the Endocrine System in Relation to Pregnancy," on which a paper was presented by Professor Gentili, director of the Clinica ostetrica-ginecologica at the University of Pisa. Following the papèr there was a general discussion. Professor Gentili replied to all who discussed the question.

A resolution was passed to devote the next congress to a celebration in honor of the founders of the society who are still living; namely, Professors Bedeschi, Fabbri, Guzzoni degli Ancarani, Mangiagalli, Negri and Pestalozza.

Convention of the Italian Society of Dermatology and Syphilography

The Società italiana di dermatologia e sifilografia held its twenty-second annual session in Rome, December 17-19. Prof. Jader Cappelli, director of the Clinica dermosifilopatica at the University of Turin, presided. The main subject on the program, "The Pathogenesis of Congenital Syphilis," was presented by Prôfessor Lombardo of Pisa. Communications on subjects related to the main theme were presented by Martinotti, Piccardi and Artom. The lively general discussion which followed was closed by Professor Lombardo. Professor Bosellini, director of the Clinica dermosifilopatica at Rome, was chosen president for the ensuing year.

Activities of the Italian League to Combat Cancer

The governing council of the Lega italiana per la lotta contro il cancro has recently published a report for 1925. The league has two aims: (1) to promote more exact knowledge and more effective treatment of cancer, and (2) to support propaganda for early diagnosis of the disease and for the prophylactic treatment of the lesions that predispose toward it. The league was founded in Bologna in 1922. In September, 1924, at Milan, the league was reorganized on a broader basis. Acting with a national committee appointed by the Red Cross, the league is planning to found in Milan an institute for cancer research, which will be the first institute of the kind to be established in Italy. During the past year, the league has developed through the organization of diagnostic centers and through regional committees established in the provinces. Of the latter, twenty-eight have already been established in Italy, in addition to one in Alexandria, Egypt. Thirty-one others are being organized, and it is expected that, very shortly, such committees will be functioning in all the provinces of the realm, as well as in many Italian colonies in foreign lands.

The work of organization was accompanied by a publicity campaign carried on by means of lectures and the distribution of pamphlets and leaflets. Lectures were held in Florence, Siena and Palermo. Among the pamphlets distributed was one by Professor Vernoni of the University of Florence, entitled "Cancer and the Means of Combating It" and another by Professor Rietti of Ferrara on the subject of "Anticancer Organizations, with Especial Reference to the Institutes Existing in Foreign Countries for the Study and Treatment of Cancer." There is also a publication in course of preparation by Professor Alessandrini, instructor in parasitology at the University of Rome.

The minister of the interior has given his support to the publicity campaign, has appropriated funds to aid in carrying on the work, and has requested the prefects of the provinces to stimulate local initiative and the organization of committees to provide for the coordination of existing movements. In addition, the public health service has sent a questionnaire to the physicians in the province, in which it requests data concerning local societies for combating cancer, special dispensaries or ambulatoriums, diagnostic centers, clinics or hospital wards for the treatment of cancer patients, and roentgenologic or radium therapy establishments. The president of the league has also appealed to the ministers having jurisdiction to see to it that the distribution of radium among the hospitals and clinics, for therapeutic purposes, be better controlled. Many banking houses, provincial deputations, communes and societies for the promotion of public welfare have contributed to the league.

A Graduate Course in Industrial Medicine

In the clinic for occupational diseases at the University of Naples, a graduate course in industrial medicine, extending from January 25 to March 25, has been announced. The course, intended solely for physicians, will consist of lectures, clinical and laboratory work, and visits to industrial establishments and to institutes of social welfare.

BERLIN

(From Our Regular Correspondent)

Feb. 27, 1926.

Relative Sexuality

Before the Berliner medizinische Gesellschaft, Prof. M. Hartmann, whose researches on protozoa are well known, delivered an address recently on relative sexuality and its importance to fecundation. From numerous observations, partly his own and partly those of others, Hartmann concludes that every living cell is bisexual and possesses the complete female and male anlagen. That eventually the female or the male potentiality becomes preponderant is owing to the fact that one anlage is furthered or exists in a naturally dominant form, whereas the other anlage is either retarded or is less dominant. As the result of the preponderant influence of one or the other factor, a cell becomes definitely male or female with reference to another cell in which the opposite factor predominates. The female and male germinal cells are therefore not purely and absolutely female or male but are only relatively so. Hartmann assumes that the difference in sex is based on quantitative and not qualitative differences. Fortified by this conception, Hartmann had formerly reached the conclusion that in lower organisms there may be not merely two extremes of sexual differentiation but possibly several degrees marking distinctions of sex. Recently Hartmann has found evidence in support of such an assumption. At the German Zoological Station in Naples, he investigated the sexual behavior of a specimen of algae of the genus *Ectocarpus*. This species belongs to one of those lowest forms of organisms whose germinal cells cannot, from their external appearance, be classified as male and female. Each individual of the species produces minute germinal cells provided with an anterior and a posterior flagellum and resembling *Flagellata* in other respects as well, which *inter se* are morphologically alike (isogametes). But that these isogametes are, in fact, physiologically differentiated is shown, with respect to *Ectocarpus*, by the observation that only gametes that are produced by different plants are brought into sexual union, and the behavior of the various gametes is such that some may be regarded as male and some as female. When union of the gametes has occurred, certain ones, thus marked as female, lose their motility and attach themselves to the bottom of the container, while the others comport themselves as male germinal cells, for they hover about the female cells in large numbers until finally a union of a male germinal cell with the sedentary or sessile female cell takes place. Hartmann observed that it was possible to distinguish strong, less strong and weak females, the same being true of the males. When Hartmann brought together types that had been recognized as weakly masculine with types that he had found to be strongly masculine, these "isosexual" gametes effected a sexual union, the weakly male gametes comporting themselves now as female. The corresponding observation was made that weakly female gametes entered into sexual union with strongly female gametes, the weakly female gametes functioning now as male gametes. It is evident, therefore, that individual gametes are not absolutely male or female. Whether a sexual union takes place between two gametes does not depend on qualitative but rather on quantitative differences. How these differences in constitutional makeup are brought about remains to be determined, but Hartmann is inclined to the view that external conditions are the deciding factors.

Statistics of Medical Students at Prussian Universities

The Prussian Bureau of Statistics published recently statistical data on the students at Prussian universities. The total number of medical students, nationals and foreigners included, during the winter semester, was 3,387 men and 659 women. There were three men and two women under 18 years of age, and 178 men and twenty-six women over 30 years old. The remainder ranged in age between 18 and 30. The distribution of students according to confession was as shown in the adjoining table.

Confession	Men	Women
Protestant	1,734	319
Roman Catholic	809	136
Jewish	412	118
No religious confession	30	13
Miscellaneous (Mohammedan, etc.)	257	38

There were more students in their tenth semester than any other: 576 men and 100 women. (The medical course in Germany covers ten semesters.) In their eleventh semester there were 130 men and twelve women; 116 men and eight women were in their twelfth semester or above.

Of the medical students, 2,354 men and 419 women were planning to become physicians, while 327 men and 79 women were intending to practice dentistry.

There were 1,988 students with diplomas from humanistic (classical) gymnasia and 985 students from the "Realgymnasia" (no instruction in Greek).

A record of the profession or occupation of the fathers of the students yielded the following result: high officials, 353 men students and 114 women; officials of the middle type, 635 men and 102 women; government clerks, 35 men and 1 woman; the liberal professions (physicians, etc.), 579 men and 89 women; independent callings without academic training, 76 men and 10 women; army or navy officers and higher officials, 45 men and 10 women; other military persons, 2 men and 3 women; landed proprietors, 76 men and 16 women; farmers and small landowners, 200 men and 16 women; industrialists, 886 men and 194 women (among these, 113 and 47, respectively, were owners or managers of factories): craftsmen, 154 men and 19 women; employees in leading positions, 104 men and 15 women; employees in minor positions, 201 men and 47 women; laborers, 17 men and 1 woman; no occupation, 52 men and 17 women.

Marriages

Cecil B. O'Brien, Greencastle, Ind., to Miss Edna Louise Koss of Indianapolis, January 20.

John O. Cletcher, Tuscola, Ill., to Miss Jessie Wilson of Flushing, Ohio, in February.

Otis W. McQuown, Marion, Ind., to Miss Harriet Joost of Chicago, Dec. 31, 1925.

Deaths

Jesse Ralph Harris ⊕ Lieut. Col., U. S. Army, retired, Niagara Falls, N. Y.; University of Buffalo, Department of Medicine, 1901; assistant in anatomy Cornell University *Medical College, 1901-1902*; was commissioned in the U. S. Army in 1902 and retired as lieutenant colonel in 1919 on account of physical disability; since retiring was health officer of New Britain, Conn., and Tampa, Fla.; connected with the Tennessee State Board of Health, 1923-1924; aged 51; died, February 6, of cerebral hemorrhage.

Jacob Edward Gilcreest ⊕ Ennis, Texas; Louisville (Ky.) Medical College, 1876; past president of the Texas State Medical Association and the Cook County Medical Society; emeritus professor of gynecology and formerly lecturer on gynecology, Baylor University College of Medicine, Dallas; member of the state board of health, 1909-1911; at one time chief surgeon of the Gainesville (Texas) Sanitarium; aged 75; died, March 18, of myocarditis.

Cyrus Strong Merrill, Albany, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1871; member of the Medical Society of the State of New York, and the American Ophthalmological Society; emeritus professor of ophthalmology and otology, Albany Medical College, since 1876; on the staffs of the Albany and Child's hospitals; aged 78; died, March 17.

Mack Rogers ⊕ Birmingham, Ala.; University of Alabama School of Medicine, Tuscaloosa, 1889; formerly professor of anatomy, Birmingham Medical College; was a member of the House of Delegates of the American Medical Association, 1909 and 1910; at one time vice president of the Southern Medical Association; served during the World War; connected with the U. S. Veterans' Hospital, no. 99, Excelsior Springs, Mo.; aged 61; died, March 20, of heart disease.

Walter Scott Dotson ⊕ Lebanon, Tenn.; University of Nashville Medical Department, 1901; formerly secretary of the Wilson County Medical Society; served during the World War; on the staff of McFarland Hospital; aged 47; died, March 13, at the Protestant Hospital, Nashville, of cerebral hemorrhage.

Hartwig Kandt ⊕ Brooklyn; Long Island College Hospital, Brooklyn, 1906; member of the American College of Physicians and Brooklyn Society of Internal Medicine; on the staffs of the Methodist Episcopal, and the Wyckoff Heights hospitals; aged 50; died, March 25, of pneumonia.

Nelson Water Thompson, Port Chester, N. Y.; University of Michigan Homeopathic Medical School, Ann Arbor, 1901; formerly on the staff of the Metropolitan Hospital, New York; medical superintendent of the United Hospital, where he died, March 18, of heart disease, aged 49.

Thomas Joseph Kilmartin, Waterbury, Conn.; Medical Department of the University of the City of New York, 1895; member of the Connecticut State Medical Society; for nineteen years city health officer; aged 53; died, March 13, of chronic endocarditis and myocarditis.

Albert Polon, New York; Cornell University Medical College, Ithaca, 1910; member of the Medical Society of the State of New York; instructor in neurology, Columbia University College of Physicians and Surgeons, New York; aged 44; died, March 15, of heart disease.

Raymond Albert Rice ⊕ Columbus, Ohio; Starling Medical College, Columbus, 1897; member of the Associated Anesthetists of the United States and Canada; on the staff of the Grant Hospital; aged 50; died suddenly, March 11, at New Orleans, of heart disease.

Philip Turner Southall, Amelia, C. H., Va.; Medical College of Virginia, Richmond, 1873; member of the Medical Society of Virginia; president of the Amelia County Medical

Society; at one time member of the county board of health; aged 74; died, February 16.

Charles Pinckney Hough ⊕ Jefferson City, Mo.; Missouri Medical College, St. Louis, 1875; formerly surgeon general of the Montana National Guard; at one time health officer of Butte, Mont., and on the staff of the St. James' Hospital; aged 80; died, March 12.

Stephen White Roof ⊕ University and Bellevue Hospital Medical College, New York, 1906; on the staffs of the Nyack (N. Y.) Hospital and the Manhattan Eye, Ear and Throat Hospital; served during the World War; aged 50; died, March 13.

Abbott B. Lichtenwalner, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1891; member of the Medical Society of the State of Pennsylvania; aged 64; died in March, at the Hahnemann Hospital, of chronic myocarditis.

Henry Moffat ⊕ Yonkers, N. Y.; Medical Department of Columbia College, New York, 1881; on the staffs of the Ossining (N. Y.) Hospital, the Sprain Ridge and St. Joseph's hospitals, Yonkers; aged 70; died, March 25, of heart disease.

William Garth Clopton ⊕ Baltimore; University of the South Medical Department, Sewanee, Tenn., 1904; aged 48; died, March 16, at the Massachusetts General Hospital, Boston, following an operation for carcinoma of the rectum.

John A. Sheibley, Shermans Dale, Pa.; University of Pittsburgh School of Medicine, 1891; member of the Medical Society of the State of Pennsylvania; formerly member and president of the school board; aged 67; died, March 15.

Willis Beecher Moodie, Valhalla, N. Y.; University of Vermont College of Medicine, Burlington, 1909; member of the Medical Society of the State of New York; aged 42; died, March 5, of streptococcic septicemia and diabetes.

Frank Forrest Floyd ⊕ Statesboro, Ga.; University of Georgia Medical Department, Augusta, 1899; secretary of the Bullock County Medical Society; served during the World War; aged 50; died, March 11, of pneumonia.

John T. Wallingford, Covington, Ky.; Medical College of Ohio, Cincinnati, 1882; formerly health officer of Covington; aged 68; died in March, at Brentwood Heights, Calif., of acute myocarditis and hypostatic pneumonia.

William Henry Katzenbach ⊕ New York; Bellevue Hospital Medical College, New York, 1871; formerly professor of clinical medicine, New York Polyclinic Medical School; aged 78; died, March 19, at Trenton, N. J.

Samuel Wood Thurber ⊕ New York; Medical Department of Columbia College, New York, 1894; formerly instructor of laryngology, Columbia University College of Physicians and Surgeons; aged 58; died, March 16.

John W. Cline ⊕ Santa Rosa, Calif.; College of Physicians and Surgeons, Keokuk, 1881; Bellevue Hospital Medical College, New York, 1894; aged 65; died, Dec. 24, 1925, of chronic myocarditis and chronic nephritis.

Roscoe Lee Logan ⊕ San Rafael, Calif.; California Eclectic Medical College, Los Angeles, 1901; aged 50; died, March 7, at St. Francis Hospital, San Francisco, of lobar pneumonia, and acute hepatitis.

Harry Schuyler Oyler ⊕ Lincoln, Ill.; Marion-Sims College of Medicine, St. Louis, 1901; served during the World War; aged 55; died in March, at the Deaconess Hospital, of interstitial nephritis.

William Walter Barrett, Peachland, N. C.; Kentucky School of Medicine, Louisville, 1892; aged 61; died, March 11, at the Anson Sanatorium, Wadesboro, of injuries received in a fall.

William Kline ⊕ Phillipsburg, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1891; on the staff of the Warren Hospital, where he died, March 3, of heart disease, aged 60.

Shelby Harrison Kelsay, Cropper, Ky.; Kentucky University Medical Department, Louisville, 1904; member of the Kentucky State Medical Association; aged 46; died, March 14, of pneumonia.

James Wesley Cartwright ⊕ Payne, Ohio; Long Island College Hospital, Brooklyn, 1882; Fort Wayne (Ind.) College of Medicine, 1892; aged 69; died, March 15, at Jacksonville, Fla.

Isaac L. Coy, Archbold, Ohio; Cincinnati College of Medicine and Surgery, 1898; member of the Ohio State Medical Association; aged 66; died suddenly, March 17, of cerebral hemorrhage.

Albert Joseph Kopf ⊕ Denver; Marion-Sims College of Medicine, St. Louis, 1899; member of the Missouri State Medical Association; aged 57; died, March 1, at St. Luke's Hospital.

Louis Brechemin ⊕ Col., U. S. Army, retired, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1876; served during the World War; aged 73; died, March 11.

Jared Charles Hepburn ⊕ Chicago; Chicago Medical College, 1890; on the staff of St. Bernard's Hospital; aged 62; died, March 17, at Phoenix, Ariz., of heart disease.

Harold Jerard ⊕ Pleasant Hill, Mo.; University of Missouri School of Medicine, Columbia, 1875; aged 73; died, March 14, at the Research Hospital, Kansas City.

Rex Alexander Schlag, Prairie du Sac, Wis.; Denver and Gross College of Medicine, Medical Department University of Denver, 1903; aged 46; died, March 9.

Julius Garst, Worcester, Mass.; University of Michigan Medical School, Ann Arbor, 1878; also a pharmacist; aged 70; died recently, at Roswell, N. M.

Aden G. Lovell ⊕ Mount Vernon, Ky.; Louisville Medical College, 1883; president of the Rockcastle County Medical Society; aged 72; died, March 11.

Alfred Carson Williams ⊕ Reynolds, Ind.; Indiana University School of Medicine, Indianapolis, 1912; aged 36; died, March 17, of bronchopneumonia.

Hudson Jerome Kinne, Frankfort, Mich.; Baltimore Medical College, 1892; aged 64; died, March 18, at a sanatorium in Battle Creek, of myocarditis.

Edward J. Gabriel ⊕ Payson, Ill.; St. Louis College of Physicians and Surgeons, 1891; aged 57; died, March 11, at the Blessing Hospital, Quincy.

William Henry Holland, Ninety Six, S. C.; University of Maryland School of Medicine, Baltimore, 1891; also a dentist; aged 62; died, March 7.

Newton M. Williams, Jackson, Tenn.; University of Louisville (Ky.) School of Medicine, 1890; aged 77; died, March 11, of chronic nephritis.

John B. Campbell, Brooklyn; New York Homeopathic Medical College, New York, 1878; aged 60; died, March 2, of cerebral hemorrhage.

Benjamin Robley Lennox, Sikeston, Mo.; Missouri Medical College, St. Louis, 1884; aged 67; died, March 6, following a long illness.

Henry Bell King ⊕ York, Pa.; Jefferson Medical College of Philadelphia, 1883; aged 65; died, January 24, of chronic myocarditis.

Daniel Alcott Holland ⊕ Winfield, Kan.; University of Louisville School of Medicine, 1909; aged 42; died, March 7, of influenza.

Charles Henry Walker, New York; Medical Department of the University of the City of New York, 1894; aged 59; died, March 16.

William R. Siron, McDowell, Va.; University of Maryland School of Medicine, Baltimore, 1891; aged 61; died, February 16.

Samuel Lee Stonebraker ⊕ Tyrone, Pa.; College of Physicians and Surgeons, Baltimore, 1905; aged 45; died, February 25.

Harry Keep Lum ⊕ Monroe, Wash.; University of Michigan Medical School, Ann Arbor, 1885; aged 63; died, February 15.

Peter J. Lenhart, Wauseon, Ohio; University of Wooster Medical Department, Cleveland, 1875; aged 78; died in March.

Kelley W. Travis, Princeton, Mo.; American Medical College, St. Louis, 1879; aged 73; died, March 7, of pneumonia.

Clinton G. Buffington, Decatur, Ill.; Missouri Medical College, St. Louis, 1881; aged 66; died suddenly, March 14.

Lucius G. Waterman ⊕ Buffalo; University of Buffalo Department of Medicine, 1883; aged 77; died, March 11.

Clayton A. Bullard, Royal Oak, Mich.; Detroit College of Medicine and Surgery, 1902; aged 48; died, March 2.

Wallace Mathews ⊕ Quitman, Ga.; Atlanta Medical College, 1890; aged 58; was found dead, March 11.

Clifford R. Case, Cincinnati; Medical College of Ohio, Cincinnati, 1888; aged 64; died, March 12.

Thomas N. Courson, Devereux, Ga.; Southern Medical College, Atlanta, 1886; died, March 9.

Thomas Henry Lindley, Cedar Rapids, Iowa (licensed, Iowa, 1889); aged 81; died, March 8.

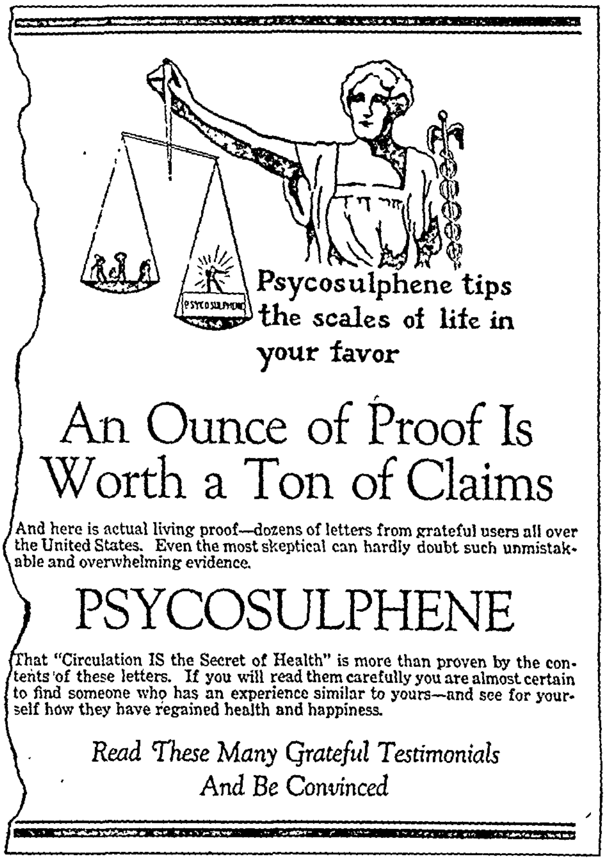
The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

PSYCOSULPHENE

Spring Hill, W. Va., Seeks a Place in the Sun of Quackery

From that metropolitan center (population 200), Spring Hill, West Virginia, comes the latest medical marvel, "Psycosulphene," exclusively distributed by McNickle & Co. Psycosulphene is "a Product of Chemical Research"—take it from the manufacturer. It "Promotes Circulation Through the Feet." Those who are suffering from "kidney trouble," "run down constitution," "nervous disorders" or what-have-you, are instructed to drop a small pinch of Psycosulphene into each shoe each day. "The thoughtless will smile, but the wise know there are 27,000,000 pores in the soles of your feet."



Psycosulphene tips the scales of life in your favor

An Ounce of Proof Is Worth a Ton of Claims

And here is actual living proof—dozens of letters from grateful users all over the United States. Even the most skeptical can hardly doubt such unmistakable and overwhelming evidence.

PSYCOSULPHENE

That "Circulation IS the Secret of Health" is more than proven by the contents of these letters. If you will read them carefully you are almost certain to find someone who has an experience similar to yours—and see for yourself how they have regained health and happiness.

Read These Many Grateful Testimonials And Be Convinced

This brand of quackery appears to be profitable: for instance, in the Charleston (W. Va.) *Gazette* for Jan. 19, 1926, appear four full-page advertisements of "Psycosulphene! The Wonder Treatment." No small proportion of the white paper thus used up is devoted to the ubiquitous and inevitable testimonial. We learn that Mrs. P. R. O'Dell of Charleston was a cripple with rheumatism; she was either confined in bed or walking around on crutches; her heart was affected, too, and her eyes were poor, and she was so weak that she could not "wring a dish-rag." Then Psycosulphene came into her life and in just three weeks by putting a pinch of this marvelous powder into the foot of each stocking, she became entirely well. Moreover, she lost "twenty pounds of unnatural weight."

Mrs. W. H. Fish of Columbus, Ohio, is another testimonial giver, not on behalf of herself, but in the interest of her husband. Mr. Fish, it seems, suffered from rheumatism; worse still, "he was attended by twenty-nine different doctors." Then came Psycosulphene, and Mr. Fish "began to sleep and enjoy life again." May Albertson had long suffered from malnutrition. After she "had doctored for seven years" she heard of Psycosulphene and her color came back. She gained eleven pounds in four weeks.

Mrs. Ralph Fox of Pennsylvania "suffered from a nervous breakdown" and after spending $200 in doctors' bills without effect and being confined to her bed for seven years, she put Psycosulphene into her stockings. Now she can take care of her housework! Another Charleston citizen, Mr. P. C. Bays, had eczema for fifteen years. He began using Psycosulphene and he "scaled off like a fish" and is completely cured. Then there was Peter Adams, who was cured of asthma, and Mrs. Nellie Allard, who recovered via the Psycosulphene route from swollen feet and hysterics.

These are just a few of the wonders that the Charleston *Gazette* passes on (At the usual advertising rates?) to others who may be suffering from rheumatism, nervous breakdown, malnutrition, swollen feet or hysterics. Not that the conditions just enumerated exhaust the field covered by Psycosulphene. This powder, a pinch of which is to be put in one's socks, is the "last word" in such conditions as "blood poisoning," anemia, "female trouble" or "prostate gland trouble."

In this same advertisement we are told that while "clap-trap and ballyhoo were never more in vogue than today," yet "the great forces of Nature are silent," which presumably explains why the Psycosulphene advertisement shouts raucously from four full pages of the Charleston *Gazette* in letters that can be read a block away.

As already mentioned, Psycosulphene is used externally. The instructions are to put five pinches of the powder in the stockings or socks the first day, four pinches the second day, three pinches the third day, two pinches the fourth day, and then one pinch for every day of the remaining seventy-two days that the preparation is to be used. For "best results" the purchaser is urged to wear the same stockings "from four to ten days"!

In order that the public and the medical profession might be apprised of the composition of this "product of chemical research" an original package of Psycosulphene was turned over to the A. M. A. Chemical Laboratory with the request that it be analyzed. The Laboratory Report follows:

LABORATORY REPORT

"One original package of Psycosulphene (McNickle & Co., Spring Hill, W. Va.) was submitted to the A. M. A. Chemical Laboratory for examination. The package contained 169 Gm. (approximately 6 ounces) of a pale yellowish white pulverized powder. No statement of the composition appeared on the package. Qualitative tests indicated the presence of sulphur, starch, boron and carbonates. Boron was present as sodium tetraborate (borax); the carbonate was present mainly as sodium bicarbonate. Alkaloids, heavy metals, benzoic and salicylic acids, camphor, essential oils were not found.

"Quantitative determinations yielded the following:

"Loss over sulphuric acid	2.7 per cent
"Sulphur	4.6 per cent
"Starch	16.6 per cent
"Bicarbonate and carbonate (as carbon dioxide — CO_2)	21.8 per cent
"Boric anhydride (B_2O_3)*	15.0 per cent

* The figures for B_2O_3 and CO_2 yield somewhat higher theoretical value for sodium borate ($Na_2B_4O_7.10\ H_2O$) and sodium bicarbonate ($NaHCO_3$), respectively, than are actually present; this is to be expected as the composition of both borax and sodium bicarbonate varies.

"From the foregoing it may be concluded that Psycosulphene contains essentially the following substances in the approximate amounts:

"Sulphur	5 parts
"Starch	15 parts
"Borax	40 parts
"Baking soda	40 parts"

Here, then, we have a few cents' worth of baking soda, borax, starch and sulphur mixed together, put in a fancy box, given a misleading name, and sold for $3.50. No wonder McNickle & Co. can afford to purchase four-page spreads in city newspapers. Supposing, however, our federal law required the declaration on the label of the names and quantities of the active ingredients of "patent medicines." How many people could be fooled into believing that a mixture of this sort will cure prostate trouble, blood poisoning, varicose veins, neuritis or the score of other conditions for which Psycosulphene is directly or by implication recommended? The medical faker will flourish just so long as secrecy and the mystery that goes with secrecy is permitted by law.

Correspondence

"POLLEN THERAPY WITH PROTEIN-FREE EXTRACTS"

To the Editor:—The article by Black and Moore (THE JOURNAL, January 30) contains statements that are distinctly inaccurate and misleading.

F. W. Heyl (*J. Am. Chem. Soc.* **39**:1470, 1917) found that ragweed pollen used in his work contained 4.99 per cent of total nitrogen, of which 2.6 per cent was soluble in aqueous saline solution. Of this 2.6 per cent, from 0.6 to 0.8 per cent was protein in nature, part being albumin and proteose.

H. L. Huber and K. K. Koessler (*Arch. Int. Med.* **36**:751 [Dec.] 1925) obtained solutions of ragweed pollen (1:10, or 10 per cent) which contained 1.54 and 1.61 mg. of nitrogen per cubic centimeter. According to Heyl's figures, these 10 per cent solutions would contain about 0.5 mg. of protein nitrogen per cubic centimeter, or about 3 mg. of pollen protein per cubic centimeter.

Glycerol and water have similar solvent properties. With regard to the nitrogenous constituents of *Artemisia* pollens, we have confirmed this general fact in that we find that glycerol-water-salt extracts and water-salt extracts of the same pollen concentrations contain identical amounts of nitrogen.

Various conditions may modify the usual qualitative protein tests, so that the failure to secure positive tests as Black did is not definite proof of the absence of protein. Further, it usually is considered most probable that protein is present in unpurified biologic extracts containing nitrogen (especially large amounts).

With especial regard to the testing of glycerol solutions of *Ambrosia trifida* pollen, we find the following:

A 2 per cent solution of pollen in 50 per cent glycerol-physiologic sodium chloride solution was used. It contains about 0.3 mg. of nitrogen per cubic centimeter.

In the biuret test, the color of the solution interferes with the recognition of the test. Reducing substances are present which render testing impossible, owing to the rapid reduction of the cupric ion in the alkaline solution.

The Adamkiewicz reaction is negative, but it is also negative with an egg-white solution in 50 per cent glycerol that contained 0.32 mg. of nitrogen per cubic centimeter.

In the Liebermann reaction, a slight red coloration occurs. This test is not definite.

In the xanthoproteic reaction, a distinctly positive test is obtained, though not as intense as with an egg-white solution of the same nitrogen concentration.

The reduced sulphur reaction is negative, but so is egg-white solution of the same nitrogen concentration.

In the Millon reaction a precipitate is formed that does not turn red on heating.

Trichloracetic and picric acids do not give precipitates, while tungstic and phosphotungstic acids do.

Sodium tungstate and sodium bicarbonate are not protein precipitants as such.

Mercuric salts give definite precipitation.

These statements do not mean that we believe the active agent in pollen extracts to be a protein. The recent work of Grove and Coca (*J. Immunology,* 1925) is quite definite, though not absolutely conclusive, on this point. If one is acquainted with the difficulties encountered by investigators working on the isolation of the active principles of insulin and pituitary extracts, one will understand the practical impossibility of stating that a substance is nonprotein until the active substance has been isolated as a pure material. Actual isolation as a pure material and determination of molecular weight with analysis of the elements present is the only absolute criterion on this point.

GORDON A. ALLES, M.S., Los Angeles.

[The letter of Dr. Alles was referred to Dr. Black, who replies:]

To the Editor:—It seems to me that Dr. Alles has missed the intent of our report. We are not contending that our pollen extract was protein-free in the absolute sense of the word. We found that a pollen extract after a year's time gives no reaction to tests that were previously positive. We felt that this indicated a very definite quantitative change in the protein content and justified the statement made—that the extract contained no protein "so far as may be determined by the ordinary qualitative tests."

With this extract we obtained results as good as those obtained by use of extracts containing considerable quantities of protein. We felt justified in believing, therefore, that this was another indication that quantitative reduction—if not absolute elimination—of protein had no effect on the active substance in pollen extracts.

J. H. BLACK, M.D., Dallas, Texas.

"REACTION OF NORMAL PERSON TO TUBERCULIN"

To the Editor:—My attention has been called to the answer in reply to the question on the reaction of the normal person to tuberculin (THE JOURNAL, February 6, p. 437). To me this answer is most unsatisfactory and misleading and has only added confusion, without in the least giving the desired information. The quotation from Koch (*Deutsche med. Wchnschr.* **16**:1029, 1890) is quite correct, but based purely on clinical observation some thirty-six years ago, long before the specificity or the mechanism of the reaction had been determined.

As might be anticipated, the specificity was first studied in the lower animals, particularly cattle, by such investigators as Frankel, Voges, Kuhnan, Bang and von Behring. The tuberculin test in cattle gave a positive or negative result, corresponding to the presence or absence of tuberculosis as determined by necropsy. In the human being, identical findings have been demonstrated by the anatomic studies of Lebert, Ballenger, Schleuker, Nägeli and Burkhardt, and the diagnostic application of tuberculin by Hamburger, Fraenkel, Franz, Beck and many others.

With the great mass of accumulated data and the generally accepted specificity of the tuberculin reaction, a positive indicating the presence of and a negative an absence of a tuberculous infection, we may return to the original question. It will be observed that the question specifies "in a person who has no tuberculous infection of any kind." Under such conditions, *no* reaction of any kind would be obtained, no matter what amount of tuberculin is employed, unless the dose should be repeated after a hypersensitiveness has developed and then the reaction is interpreted on the basis of a foreign protein and not the presence of a tuberculous lesion.

The distinction between a healthy individual without *any* tuberculous lesion and one clinically healthy, perhaps in excellent health, but with an old tuberculous lesion is an entirely different problem. Information is requested as to dosage of tuberculin to produce a reaction. This has been answered so far as the individual entirely free from a tuber-

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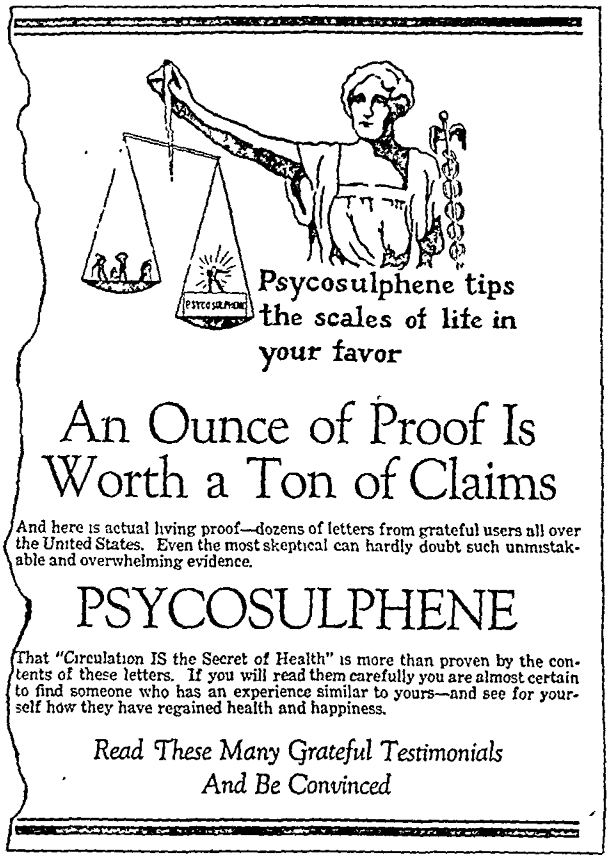
PSYCOSULPHENE
Psycosulphene tips the scales of life in your favor

An Ounce of Proof Is Worth a Ton of Claims

And here is actual living proof—dozens of letters from grateful users all over the United States. Even the most skeptical can hardly doubt such unmistakable and overwhelming evidence.

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That "Circulation IS the Secret of Health" is more than proven by the contents of these letters. If you will read them carefully you are almost certain to find someone who has an experience similar to yours—and see for yourself how they have regained health and happiness.

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"Quantitative determinations yielded the following:

"Loss over sulphuric acid	2.7 per cent
"Sulphur	4.6 per cent
"Starch	16.6 per cent
"Bicarbonate and carbonate (as carbon dioxide — CO_2)	21.8 per cent
"Boric anhydride (B_2O_3)*	15.0 per cent

* The figures for B_2O_3 and CO_2 yield somewhat higher theoretical value for sodium borate ($Na_2B_4O_7.10\ H_2O$) and sodium bicarbonate ($NaHCO_3$), respectively, than are actually present; this is to be expected as the composition of both borax and sodium bicarbonate varies.

"From the foregoing it may be concluded that Psycosulphene contains essentially the following substances in the approximate amounts:

"Sulphur	5 parts
"Starch	15 parts
"Borax	40 parts
"Baking soda	40 parts"

Here, then, we have a few cents' worth of baking soda, borax, starch and sulphur mixed together, put in a fancy box, given a misleading name, and sold for $3.50. No wonder McNickle & Co. can afford to purchase four-page spreads in city newspapers. Supposing, however, our federal law required the declaration on the label of the names and quantities of the active ingredients of "patent medicines." How many people could be fooled into believing that a mixture of this sort will cure prostate trouble, blood poisoning, varicose veins, neuritis or the score of other conditions for which Psycosulphene is directly or by implication recommended? The medical faker will flourish just so long as secrecy and the mystery that goes with secrecy is permitted by law.

Correspondence

"POLLEN THERAPY WITH PROTEIN-FREE EXTRACTS"

To the Editor:—The article by Black and Moore (THE JOURNAL, January 30) contains statements that are distinctly inaccurate and misleading.

F. W. Heyl (*J. Am. Chem. Soc.* **39**:1470, 1917) found that ragweed pollen used in his work contained 4.99 per cent of total nitrogen, of which 2.6 per cent was soluble in aqueous saline solution. Of this 2.6 per cent, from 0.6 to 0.8 per cent was protein in nature, part being albumin and proteose.

H. L. Huber and K. K. Koessler (*Arch. Int. Med.* **36**:751 [Dec.] 1925) obtained solutions of ragweed pollen (1:10, or 10 per cent) which contained 1.54 and 1.61 mg. of nitrogen per cubic centimeter. According to Heyl's figures, these 10 per cent solutions would contain about 0.5 mg. of protein nitrogen per cubic centimeter, or about 3 mg. of pollen protein per cubic centimeter.

Glycerol and water have similar solvent properties. With regard to the nitrogenous constituents of *Artemisia* pollens, we have confirmed this general fact in that we find that glycerol-water-salt extracts and water-salt extracts of the same pollen concentrations contain identical amounts of nitrogen.

Various conditions may modify the usual qualitative protein tests, so that the failure to secure positive tests as Black did is not definite proof of the absence of protein. Further, it usually is considered most probable that protein is present in unpurified biologic extracts containing nitrogen (especially large amounts).

With especial regard to the testing of glycerol solutions of *Ambrosia trifida* pollen, we find the following:

A 2 per cent solution of pollen in 50 per cent glycerol-physiologic sodium chloride solution was used. It contains about 0.3 mg. of nitrogen per cubic centimeter.

In the biuret test, the color of the solution interferes with the recognition of the test. Reducing substances are present which render testing impossible, owing to the rapid reduction of the cupric ion in the alkaline solution.

The Adamkiewicz reaction is negative, but it is also negative with an egg-white solution in 50 per cent glycerol that contained 0.32 mg. of nitrogen per cubic centimeter.

In the Liebermann reaction, a slight red coloration occurs. This test is not definite.

In the xanthoproteic reaction, a distinctly positive test is obtained, though not as intense as with an egg-white solution of the same nitrogen concentration.

The reduced sulphur reaction is negative, but so is egg-white solution of the same nitrogen concentration.

In the Millon reaction a precipitate is formed that does not turn red on heating.

Trichloracetic and picric acids do not give precipitates, while tungstic and phosphotungstic acids do.

Sodium tungstate and sodium bicarbonate are not protein precipitants as such.

Mercuric salts give definite precipitation.

These statements do not mean that we believe the active agent in pollen extracts to be a protein. The recent work of Grove and Coca (*J. Immunology*, 1925) is quite definite, though not absolutely conclusive, on this point. If one is acquainted with the difficulties encountered by investigators working on the isolation of the active principles of insulin and pituitary extracts, one will understand the practical impossibility of stating that a substance is nonprotein until the active substance has been isolated as a pure material. Actual isolation as a pure material and determination of molecular weight with analysis of the elements present is the only absolute criterion on this point.

GORDON A. ALLES, M.S., Los Angeles.

[The letter of Dr. Alles was referred to Dr. Black, who replies:]

To the Editor:—It seems to me that Dr. Alles has missed the intent of our report. We are not contending that our pollen extract was protein-free in the absolute sense of the word. We found that a pollen extract after a year's time gives no reaction to tests that were previously positive. We felt that this indicated a very definite quantitative change in the protein content and justified the statement made—that the extract contained no protein "so far as may be determined by the ordinary qualitative tests."

With this extract we obtained results as good as those obtained by use of extracts containing considerable quantities of protein. We felt justified in believing, therefore, that this was another indication that quantitative reduction—if not absolute elimination—of protein had no effect on the active substance in pollen extracts.

J. H. BLACK, M.D., Dallas, Texas.

"REACTION OF NORMAL PERSON TO TUBERCULIN"

To the Editor:—My attention has been called to the answer in reply to the question on the reaction of the normal person to tuberculin (THE JOURNAL, February 6, p. 437). To me this answer is most unsatisfactory and misleading and has only added confusion, without in the least giving the desired information. The quotation from Koch (*Deutsche med. Wchnschr.* **16**:1029, 1890) is quite correct, but based purely on clinical observation some thirty-six years ago, long before the specificity or the mechanism of the reaction had been determined.

As might be anticipated, the specificity was first studied in the lower animals, particularly cattle, by such investigators as Frankel, Voges, Kuhnan, Bang and von Behring. The tuberculin test in cattle gave a positive or negative result, corresponding to the presence or absence of tuberculosis as determined by necropsy. In the human being, identical findings have been demonstrated by the anatomic studies of Lebert, Ballenger, Schleuker, Nägeli and Burkhardt, and the diagnostic application of tuberculin by Hamburger, Fraenkel, Franz, Beck and many others.

With the great mass of accumulated data and the generally accepted specificity of the tuberculin reaction, a positive indicating the presence of and a negative an absence of a tuberculous infection, we may return to the original question. It will be observed that the question specifies "in a person who has no tuberculous infection of any kind." Under such conditions, *no* reaction of any kind would be obtained, no matter what amount of tuberculin is employed, unless the dose should be repeated after a hypersensitiveness has developed and then the reaction is interpreted on the basis of a foreign protein and not the presence of a tuberculous lesion.

The distinction between a healthy individual without *any* tuberculous lesion and one clinically healthy, perhaps in excellent health, but with an old tuberculous lesion is an entirely different problem. Information is requested as to dosage of tuberculin to produce a reaction. This has been answered so far as the individual entirely free from a tuberculous lesion is concerned, but in the apparently healthy or suspect, the diagnostic dose will vary according to the individual authority, as there is no fixed rule. Koch directed that 1 mg., then 5, then 10 be given, and, if no reaction occurred, to repeat the last dose. This is still followed by some clinicians, while others advise smaller or even larger amounts, preferably a single injection, in order to avoid confusion due to protein hypersensitiveness.

The second paragraph in the answer, the quotation from Tice's Practice, is quite superfluous and unnecessary as it refers to the therapeutic use of tuberculin, which is not requested.

Frederick Tice, M.D., Chicago.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PERFORATING ULCER OF THE FOOT

To the Editor:—Please give me the best treatment of perforating ulcer of the foot on the walking side of the heel. The ulcer is of the size of a half-dollar, dark and round, with surrounding skin elevated. It peeled two or three times, and now is back again rotting like gangrene. If you think that it is not a perforating ulcer, please tell me. Please withhold the name in publishing.

M.D., Mexico.

Answer.—Perforating ulcer of the foot was first described by the French; and from the time Nelaton published his paper in 1852, the French literature has contained many articles on the condition. For this reason it is usually referred to under the French name mal perforant du pied.

Poncet, in 1872, was the first to recognize the relation of the condition to disease of the nervous system, and it was shortly after this that the relationship between diseases of the spinal cord, particularly tabes, and perforating ulcer of the foot was established. It is now well established that it may result from several very different causes.

It occurs chiefly in males, usually in men over 40 years of age. It is very rare in the young, but two cases have been reported in children. It occurs almost always in working people who are on their feet a great deal, and the ulcer (or ulcers—for there may be two or even three) occurs at points of pressure on the plantar surface of the foot. The three points where the ulcer occurs are, in order of frequency, beneath the metatarsophalangeal articulation of the great toe, beneath the fifth toe, and beneath the heel.

While pressure and trauma unquestionably are important in determining the site and development of the ulcer, these mechanical factors are only contributory and are not the underlying cause. Today it is generally accepted that the chief factor is some change in the nervous system. The underlying nervous lesion may be located in the central nervous system or in the peripheral nervous system. It results in sensory, vasomotor and trophic changes which may affect the nerves of the entire limb or be limited to the portion of the nerves immediately in the vicinity of the ulcer. Among the types and causes of peripheral neuritis that may lead to the development of a perforating ulcer are traumatic neuritis irrespective of the nature of the trauma, tumors of nerves, tumors that press on the nerves, pressure on the nerves by callus, alcoholic neuritis, neuritis following freezing or burns, and the neuritis of leprosy. The anesthesia present seems particularly to favor the development of a perforating ulcer. Changes in the central nervous system, particularly tabes dorsalis, apparently are of greater importance. Other important causes are: injury to the cord due to fractures of the vertebrae, tumors of the cord, spina bifida, with its associated cord changes, and syringomyelia. Other less frequent causes are: paresis, progressive muscular atrophy, amyotrophic lateral sclerosis, and spastic spinal paralysis. Although typical perforating ulcers of the foot have been reported in diabetes, the typical diabetic ulcer is usually painful, whereas the typical mal perforant is characterized, as a rule, by the entire absence of any pain.

Treatment includes not only the local condition, but, wherever possible, the underlying causal condition as well, as in alcoholic neuritis and in syphilis. This is particularly important in peripheral nerve lesions.

Methods of local treatment that have been reported by various authors as having produced benefit in certain cases are the use of constant and induced electric currents, roentgen-ray treatment locally; high frequency currents; hot-air treatment, and nerve stretching. It is important to keep the patient in bed, i. e., off of his feet, and the ulcer must be dressed aseptically and kept surgically clean.

Lasting results can be achieved only by surgical intervention. In cases in which no communication exists between the ulcer and the neighboring bone or joint, careful and complete excision of the ulcer, going well into the healthy tissue, is all that is required. This can usually be done without the use of any anesthetic, as there is usually total anesthesia of the tissues about the ulcer. If the ulcer is very superficial, it may suffice to excise merely the thickened epidermis that forms the margin of the ulcer. But it is best to dissect off the floor of the ulcer in order to determine whether there is not a communication with the adjacent joint. For this reason it is best to operate with a constrictor applied. In case one finds that the ulcer communicates with the joint or bone, all destroyed bone should be removed in order to guard against a recurrence. And even with the best local treatment, recurrences are frequent. After the ulcer has been completely cut out, well into normal tissues, the defect fil[illegible] After the wound has healed, this area is [illegible] by wearing a large bunion plaster to keep pressure off this part of the foot.

Occasionally, secondary infection of so extensive a nature develops as to threaten the patient's life. Here more radical operations are required. It is only rarely, however, that amputation is indicated. Amputation is most often indicated when the ulcer is due to a lesion of the central nervous system, as tabes, paresis or syringomyelia; for in these conditions simple excision is of little avail and is usually followed by recurrence. One may first do a low amputation; but if a low amputation is followed by a recurrence, it is probably advisable to do the second amputation at once high up through the thigh.

PREMENSTRUAL RISE IN TEMPERATURE IN TUBERCULOSIS

To the Editor:—Can you tell me the cause and the significance of the premenstrual rise in temperature in women with tuberculosis of the lungs? Should this disappear as the case becomes arrested and goes on to an apparent cure? Is a premenstrual rise in temperature found in normal, healthy women? Kindly omit name.

M.D., Washington, D. C.

Answer.—Belfield found in the examination of a series of women who were in apparently normal health that there was a slight premenstrual rise in temperature. It is not the practice ordinarily to take, as a routine, daily temperatures of people in apparently normal health. It is only when a patient goes to an institution, such as a tuberculosis sanatorium, that the routine taking of temperatures is established, and in taking this routine temperature it becomes evident that many women have a definite premenstrual rise in temperature. There is no known reason for this temperature disturbance, but it is thought that the so-called internal secretions are in some way responsible. While this phenomenon has been observed for a great many years, there is no special significance attached to it.

PARALYTIC ILEUS AND LOCAL ANESTHESIA

To the Editor:—I operated on a patient a few weeks ago, under local anesthesia, for a double inguinal hernia. I used 3½ ounces (100 cc.) of 1 per cent solution of procaine. The sacs of each hernia were empty at the time of the operation. About thirty-six hours following the operation, he developed a paralytic ileus which proved fatal at the end of the thirty-six hours. Do you know of a similar case, and do you know of any reference that might give me some pertinent information?

M.D., Neb.

Answer.—Two questions seem to be involved in the discussion of the death of the patient following operation with local anesthesia for double inguinal hernia—the pharmacology of procaine and the surgical problem.

The pharmacology of procaine does not lend any support to the view that it caused paralytic ileus after thirty-six hours, because it is eliminated rapidly after it enters the blood stream, and with care in injection little of the procaine could come into direct contact with the intestine.

It seems impossible to express any definite opinion, unless the preoperative history and the necropsy findings are given. No cases are recorded in which 1 Gm. of procaine given subcutaneously caused paralytic symptoms in the intestinal tract.

TREATMENT OF SNAKE BITE

To the Editor:—The season is approaching when, in this region, there are frequent snake bites. Several of my patients have been inquiring what is the best immediate treatment for this condition. Before the patient can get medical help or a physician can reach the patient, sometimes five or six hours elapse, because of distance, poor transportation, or lack of telephone service. One of the practitioners here has been advocating the following immediate treatment: (1) arrest of circulation, ligating with strap or cord; (2) sucking freely to withdraw poison; (3) rubbing over wound and round it with a few drops of petroleum containing iodine (this for pain); (4) covering of wound with bandage; (5) saturation of bandage with potassium permanganate solution; (6) liberal doses of whisky; (7) medical attention. He advocates the same measures for dog bite. Please let me know whether these instructions (regarding application of petroleum with iodin crystals, and the application of potassium permanganate solution) have any effect to retard the spreading of poison. Have they any value at all? Do you agree in sucking the wound? Could you suggest a better or a satisfactory immediate treatment?

V. P. Bell, M.D., Conway, S. C.

Answer.—The first indication in the treatment of snake bite is to prevent the absorption of the poison. This should be attained by application of a stasis bandage proximally to the bite for from twenty to thirty minutes. After this, it should be loosened gradually and for a short time at intervals so as to permit the most gradual absorption possible while maintaining sufficient circulation in the limb to avoid injury from constriction.

Sucking the wound is commonly the next thing recommended, and as the poison is relatively harmless to the unbroken mucous membrane, there can be no serious objection to it. It is better, however, to enlarge the wound by an X shaped incision about a quarter of an inch deep. Iodine, whether in the form of tincture or of petroleum solution, might be used as an antiseptic before incision, as well as for its destructive action on venom. The wound should now be made to bleed freely by squeezing and washing. For the destruction of the venom, potassium permanganate crystals rubbed into the wound and a 2 per cent solution of it injected into and around the wound are particularly recommended. To saturate the bandage with potassium permanganate solution may be likewise useful.

The third most important step is the injection of antivenom serum specific of the poison under treatment.

The time honored free libations of whisky even to the point of drunkenness is of doubtful value; and it is possible that some deaths after snake bite have to be ascribed to the reckless use of this "remedy." Stimulation by strychnine and by aromatic spirit of ammonia, if required, is more rational.

Most important is the prevention of snake bites by extermination of venomous snakes and protecting their natural enemies, as well as by wearing strong shoes and leather leggings when going through thickets and by refraining from handling snakes.

VAGINAL SMEARS AND SANITATION OF SWIMMING POOLS

To the Editor:—Kindly express your opinion as to the advisability or inadvisability of taking vaginal smears from applicants to the swimming pool of Y. W. C. A. organizations. State also reasons for your opinions. Please omit my name.

M.D., D. C.

Answer.—The routine taking of vaginal smears from women using swimming pools appears to be something of an open question. A number of colleges do it and it is probably advisable if one wishes to take every possible precaution. Seemingly there is no record of any infection from the gonococcus through the medium of swimming pools in this country. This organism is short lived in air or water.

EFFECTS OF MERCURIC CHLORIDE

To the Editor:—1. What is the shortest length of time between the taking of mercuric chloride as a poison and death? 2. What are the colors of the tissues after taking mercuric chloride? 3. What kind of a preservative is it? 4. Does it make any difference in what form it is taken?

F. F. Blair, M.D., Montgomery, Ala.

Answer.—1. Death from mercuric chloride poisoning may occur in half an hour from shock, but commonly life is prolonged for from two to four days, and it may last into the second week.

2. Some parts of the alimentary canal are sure to show inflammatory changes. Patches of congestion and erosion appear in the mouth, throat, stomach or intestines. The kidneys swell and become acutely inflamed.

3. It is used by taxidermists to preserve skins and mounted preparations.

4. Theoretically, mercuric chloride would be both more quickly and more surely fatal if ingested in solution. Actually, at the present time most of the tablets of mercuric chloride are made so that they will be quickly soluble. Practically, then, there is little difference whether the mercuric chloride is taken in solution or in tablet form.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

American Board of Otolaryngology, Texas: Dallas, April 19,

California. San Francisco, April 27. Sec., Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

Arkansas Little Rock, May 11-12. Sec, Dr. J. W. Walker, Fayetteville. Homeo Board, Little Rock, May 11. Sec., Dr. A. A. Pringle, Eureka Springs Eclectic Board, Little Rock, May 11. Sec., Dr. Claude E. Laws, Fort Smith

District of Columbia April 13. Sec., Dr. Edgar P. Copeland, 1801 Eye St, Washington, D C.

Georgia Atlanta, June 9-11; Augusta, June 1-3. Sec., Dr. C. T. Nolan, Marietta, Ga

Hawaii: Honolulu, April 12-15. Sec., A. L. Davis, 1254 Emma Street, Honolulu.

National Board of Medical Examiners: Part I, June 21-23; Part II, June 22 23. All applications should be made on or before May 15. Sec., Dr. J. S. Rodman, 1600 Walnut Street, Philadelphia.

Nevada: Carson City, May 3. Sec., Dr. Simon L. Lee, Carson City.

New Mexico: Santa Fe, April 12-13. Sec., Dr. W. T. Joyner, Roswell.

North Dakota January Examination

Dr. G M. Williamson, secretary of the North Dakota Board of Medical Examiners, reports the oral, written and practical examination held at Grand Forks, Jan. 5-8, 1926. The examination covered 13 subjects and included 100 questions. An average of 75 per cent was required to pass. Of the 10 candidates examined, 8 passed and 2 failed. Three were licensed by reciprocity and 1 by endorsement of credentials. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
Rush Medical College	(1925)	79
Harvard Medical College	(1923)	86
University of Minnesota Medical School	(1924) 81, (1925)	88
University of Manitoba Faculty of Medicine	(1921)	86, (1924) 76, 79, (1925) 83

FAILED

College	Year Grad.	Per Cent
University of Bonn, Germany	(1922)	66
University of Tomsk, Russia	(1915)*	65

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
University of Minnesota Medical School	(1906) (1914) (1925)	Minnesota

ENDORSEMENT OF CREDENTIALS

College	Year Grad.	Endorsement with
Rush Medical College	(1923)	N. B. M. Ex.

* Verification of graduation not completed by the American Medical Association.

Vermont February Examination

Dr. W. Scott Nay, secretary of the Vermont Board of Medical Examiners, reports the written examination held at Burlington, Feb. 9-11, 1926. The examination covered 12 subjects and included 90 questions. An average of 75 per cent was required to pass. Of the 6 candidates examined, 5 passed and 1 failed. Five candidates were licensed by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
University of Vermont College of Medicine	(1925)	88
McGill University Faculty of Medicine	(1919)	86.8, (1924) 88.7, (1925) 85.1
University of Munich, Germany	(1924)	82.1

FAILED

College	Year Grad.	Per Cent
Comenian University of Bratislava, Czechoslovakia	(1922)	71.3

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
Louisville Medical College	(1904)	Washington
Boston University School of Medicine	(1890)	Illinois
Tufts College Medical School	(1903)	Mass.
Jefferson Medical College of Philadelphia	(1905)	Mass. (1924) Rhode Island

Book Notices

Gynecologic Urology. By Lynn Lyle Fulkerson, A.B., M.D., F.A.C.S., Assistant Professor of Gynecology, New York Post-Graduate Medical School. Cloth. Price, $6. Pp. 247, with 166 illustrations. Philadelphia: P. Blakiston's Son & Co., 1925.

The preface states that the book is devoted to the technic of endoscopy and cystoscopy in the female, and the diagnosis and treatment of the more common diseases of the urologic tract, and suggests that the intention of writing it was to enable students to acquire quickly a working knowledge of the subject. This has been accomplished for the most part in a satisfactory manner. Many of the paragraphs are extremely brief but are not misleading. In several instances the expressions used are somewhat inaccurate; for example, on page 18 under the paragraph headed edema, the statement that "the term should be applied whenever the blood vessels have disappeared because of swelling" is, of course, not accurate. The recommendation "that the bladder should be irrigated at least once a day with warm saline or 4 per cent boric solution" in the treatment of acute cystitis (page 55) would probably not receive general approval. Again, on page 57, "If the cystitis does not respond to treatment and always if known pyelitis exists, the ureters should be catheterized every one to five days and kidney lavage with instillation of 5 cc. of 1 per cent silver nitrate done" seems an unduly vigorous method of treatment to recommend as a routine. The technic of cystoscopic examination is excellently explained. The recent work on nephritis and nephrosis is outlined in chapter VIII, and that on renal function tests in chapter X. The illustrations are partially original and are, for the most part, satisfactory; however, they do not all measure up to the standard set by the majority. The book as a whole contains a great deal of information in a brief form and will serve to stimulate the physician or surgeon who sees a large number of women patients to examine carefully the urinary tract in an intelligent manner. As a whole, the book is a good one for the student, and supplements the standard works in gynecology.

Les fondements biologiques de la psychologie. Par Jean Lhermitte, Professeur agrégé de psychiatrie à la Faculté de médecine de Paris. Paper. Price, 14 francs. Pp. 241, Paris: Gauthier-Villars et Cie, 1925.

In a brief introduction it is shown that even two thousand years ago the idea of considering the brain merely as a storehouse for images was held and discarded, and the realization expressed that to arrive at facts of sufficient solidarity to uphold theories one must go beyond introspection to anatomic, physiologic and clinical observation of the brain. A brief but adequate historical review brings the placement of psychic activity in the brain to date.

The work is divided into eight chapters: 1. The structure of the nerve cell and fiber; the nerve impulse, its nature and action in cell, fiber and brain. 2. The phylogenetic development of the nervous system. Subheads: stage of appearance of, general irritability, of specialized receptors, of reflexes, of intersegmental reflexes, of suprasegmental neurons. The results of suprathalamic and infrathalamic decerebration in fish, amphibians, reptiles, birds and mammalians. The complexity of structure and conduct in the mammalian makes categorical conclusions impossible. 3. Ontogenesis: the structure and physiology of the nervous system of the fetus and of the infant. The cortex plays little if any part in the life of the fetus; movement is of the order of the reflex. Flechsig's claim of centers of projection versus centers of association is denied, but insight into the relation of function to structure is gained as a result of Flechsig's work. As the relations in the brain become more complex, conduct becomes less uniform and reflex and more individual. Anencephaly in man shows failure of development with more striking lack of function than does decerebration in dog and monkey; hence the greater relative importance of the cortex in man. 4. The structure and physiology of the cortex and corpus striatum. The relations of the midbrain to the sympathetic system and of the cortex to vegetative life. 5. The known relations between physical manifestations of emotions and brain anatomy: optic thalamus, lenticular nucleus and bulbopontile nuclei. There are cortical centers for emotions also. If cortical control is lost, emotion is expressed irrespective of thought; when the thalamus is cut off from the lower centers there is no outward expression of emotion. 6. Disturbances of language: comprehension and expression (exclusive of pure motor failure). Aphasia: of reception (sensory), of expression (motor), global. Word deafness, word blindness, pure motor aphasia and agraphia. Aphasia is not a destruction of brain entities: images of words, but rather of "l'intelligence" of the language. Verbal images are not static but dynamic. Musical language: tone and rhythm more primitive than articulated words; hence may persist though the latter are destroyed. Amusia, like aphasia, presents a variety of pictures. The assumption that the differences are due to focal distructions of different areas seems rather forced. 7. Center for the regulation of the states of waking and sleeping ventral to the third ventricle and extending downward below the aqueduct of Sylvius. This center is susceptible to the secretions of the endocrine system and also to cortical impulses. The relation of thinking to states of sleeping and waking: thinking not a matter of exclusive cortical activity. 8. Regulating center of activity of thought and psychomotor expression in the parencephalon.

This is an eminently serviceable book. There is a satisfactory absence of explanations of abstractions by the use of further abstractions. The anatomic and physiologic statements are nicely correlated and the direction of further moves of inquiry clearly indicated. Some such work as this should be a part of the equipment of every student of medicine.

The Clinical Study and Treatment of Sick Children. By John Thomson, M.D., LL.D., F.R.C.P., Consulting Physician to the Royal Edinburgh Hospital for Sick Children. Fourth edition. Cloth. Price, 30 shillings net. Pp. 912, with 258 illustrations. Edinburgh: Oliver and Boyd, 1925.

The usefulness of this book has been greatly enhanced in this edition. Much material of value and interest has been added. New sections have been introduced on the home care of blind, deaf and crippled children, exudative diathesis, and erythredema, as well as a discussion of minor subjects such as cephalic bruits, pyknolepsy and hypertelorism, recently described by Grieg. Throughout, little is said about pathology, so that the author has been able to devote more space to clinical methods, symptoms and descriptions of those diseases which are peculiar to children and show characteristic symptoms when they occur in early life. A valuable feature of the text lies in the references given to the papers in the periodical literature, from which the author has drawn many facts and suggestions. The portions on the examination of the child, the skin, the nervous system, and the functional nervous disorders are well written and very complete. The chapter on the teeth is exceptionally inclusive for a book of this type. On the other hand, little mention is made of the acute infectious diseases of childhood, including the exanthems, except for a page or two in the appendix devoted to the consideration of the periods of incubation. On the whole, the practitioner as well as the student will find much information of interest in this book.

Das Augenzittern als Gehirnstrahlung. Ein Atlas der Augenzitternkurven. Von Prof. Dr. Johannes Ohm, Augenarzt in Bottrop. Paper. Price, 21 marks. Pp. 326, with 266 illustrations. Berlin: Urban & Schwarzenberg, 1925.

A highly technical scientific book that starts with a quotation from Goethe and closes with a measure of the Fifth Symphony of Beethoven is somewhat unusual. The motif of the book is introduced poetically: "In the darkest castle of the Westphalian earth lie inflammable stones that represent the remains of majestic prehistoric forests, grown under the rays of a tropical sun. Recovery of the stones is accompanied by death, mutilation and manifold diseases, among the most peculiar of which is the miner's nystagmus." This motif is elaborated in the woodwinds by an analysis of the graphic curves of some 150 cases of nystagmus, recorded with the different instruments that have been developed by the author.

A subdivision of the thema shows three main types of nystagmus:

- A. Reflex nystagmus.
  - 1. Optical source.
  - 2. Vestibular source.
  - 3. Sensory source.
- B. Central nystagmus.
  - 1. From the region of Deiters' nucleus.
  - 2. From the central optic radiations.
  - 3. From the cortical motor centers.
- C. Nystagmus retractorius and protractorius.

The divisions of the thema are worked over in extenso and then reassembled in a fairly brief recapitulation. The concerto closes with an elaborate coda in the usual form. For one vitally interested in nystagmus, the book contains a wealth of information, both original and bibliographic. But for one whose interests lie in other directions, the book must be classed as an excellent soporific, far superior to the time-honored method of counting sheep.

Ears and the Man. Studies in Social Work for the Deafened. By Annetta W. Peck, Estelle E. Samuelson and Ann Lehman. With an introduction by Wendell C. Phillips, M.D., President-Elect of the American Medical Association. Cloth. Price, $2 net. Pp. 217. Philadelphia: F. A. Davis Company, 1926.

The three authoresses, themselves deaf, are, according to Dr. Phillips, the first of their profession to enter the new field of social work for the deafened. Their full sympathy therefore goes to those unfortunately afflicted with defective hearing. They consider the different aids offered the hard of hearing, not only from a social standpoint, but also from that of their economic struggle. For the hard of hearing, the reading of this book will bring much information and encouragement. To those who are desirous of helping the unfortunate deaf, it will offer many suggestions and much information.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

The Evolution of Orthopaedic Surgery. By Robert Bayley Osgood, A.B., M.D., John B. and Buckminster Brown Professor of Orthopaedic Surgery in Harvard University. First Detroit Orthopaedic Lecture. Auspices of the Wayne County Medical Society, Detroit, Michigan. March 16, 1925. Cloth. Pp. 70, with 49 illustrations. St. Louis: C. V. Mosby Company, 1925.

Beautifully prepared history of orthopedic surgery, based on biographic method.

Die Chirurgie. Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner und Prof. Dr. O. Nordmann. Lieferung 6, IV. Band. Die Chirurgie der Mundhöhle, der Speicheldrüsen und des Rachens. Von Prof. Dr. F. Brüning. Die Chirurgie des Kehlkopfes und der Luftröhre. Von Prof. Dr. J. Soerensen. Paper. Pp. 358, with illustrations. Berlin: Urban & Schwarzenberg, 1925.

Additional part of new German system of surgery.

La pratique des déviations vertébrales: (scoliose—cyphose—lordose). Par Carle Roederer, Assistant d'orthopédie a l'Hôpital Saint-Louis, et René Ledent, Directeur des cours d'éducation physique à Liége. Paper. Price, 42 francs net. Pp. 376, with 215 illustrations. Paris: G. Doin & Cie, 1926.

An orthopedic consideration of spinal curvatures, printed shabbily on miserable paper.

Éléments de microbiologie générale et d'immunologie. Morphologie et physiologie des microbes pathologie générale des infections microbiennes. Par M. Nicolle, Professeur a l'Institut Pasteur. Second edition reviewed by A. Boquet. Paper. Price, 35 francs net. Pp. 358. Paris: G. Doin & Cie, 1926.

A French textbook poorly printed and without illustrations.

Individual Gymnastics. A Handbook of Corrective and Remedial Gymnastics. By Lillian Curtis Drew, Director of Department of Corrective Gymnastics, Central Branch Y. W. C. A., New York City. Third edition. Cloth. Price, $2.25. Pp. 276, with 121 illustrations. Philadelphia: Lea & Febiger, 1926.

Popular manual by well trained and experienced teacher.

Hysteria By Ernst Kretschmer, M. D., A. O. Professor of Neurology and Psychiatry in Tubingen. Translated by Oswald H. Boltz, M.D., Senior Assistant Physician in the Manhattan State Hospital in New York City. Nervous and Mental Disease Monograph Series, No. 44. Pp. 120. New York: Nervous & Mental Disease Publishing Company, 1926.

Study of whole subject, attempting to correlate work of Kraepelin and of Freud.

The Nematode Parasites of Vertebrates. By Warrington Yorke, M.D., Professor of Parasitology, University of Liverpool and Liverpool School of Tropical Medicine, and P. A. Maplestone, M.D., D.S.O. With a foreword by C. W. Stiles, Professor of Zoology, United States Public Health Service. Cloth. Price, $9. Pp. 536, with 307 illustrations. Philadelphia. P. Blakiston's Son & Co., 1926.

Technical work for special students and experts.

The Natural Increase of Mankind. By J. Shirley Sweeney, M.A., M.D., D.Sc. Cloth. Price, $4. Pp. 185. Baltimore: Williams & Wilkins Company, 1926.

Scientific consideration of birth rates, with a hopeful outlook for birth control, recognizing the existence of differential fertility.

Indigestion: What It Is and How to Prevent It. By Arthur L. Holland, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical College. Cloth. Price, $1.25. Pp. 130, with 12 illustrations. New York: D. Appleton & Co., 1926.

Popular treatise, well written and, like few others in its field, free from faddism.

Précis de bactériologie pratique. Par Jules Courtmont, Professeur d'hygiène à la Faculté de médecine de Lyon, Médecin des hôpitaux. Fifth edition by Paul Courtmont. Cloth. Price, 85 francs. Pp. 1259, with illustrations. Paris: G. Doin & Cie, 1926.

Well illustrated but poorly printed popular French textbook of bacteriology.

Die Ursache des Carcinoms. Von Prof. R. P. Van Calcar. Aus dem bacteriologisch-hygienischen Laboratorium der Universität Leiden. Paper. Pp. 66, with 45 illustrations. Leiden: S. C. Van Doesburgh, 1926.

General consideration of the causes of cancer, leading to no practical conclusion.

A Manual of Clinical Laboratory Methods. By Clyde Lottridge Cummer, Ph.B., M.D., Associate Professor of Clinical Pathology, School of Medicine, Western Reserve University. Second edition. Cloth. Price, $6.50. Pp. 547, with 181 illustrations. Philadelphia: Lea & Febiger, 1926.

New edition brought quite up to date.

Das Wachstum des Kindes. Von Prof. Dr. Eugen Schlesinger, Stadtischer Fursorgearzt in Frankfurt a. M. Paper. Price, 6 marks. Pp. 128, with 8 illustrations. Berlin: Julius Springer, 1926.

Studies of height and weight of children, and various influences affecting them.

The History of Small-Pox in Australia, 1909-1923. By J. H. L. Cumpston, M.D., D.P.H., Director-General of Health and Director of Quarantine, and F. McCallum, M.B., B.S., D.P.H., Quarantine Officer, Commonwealth Department of Health. Commonwealth of Australia Department of Health. Service Publication No. 29. Paper. Pp. 243. Melbourne, 1925.

An Investigation into the Statistics of Cancer in Different Trades and Professions. By Matthew Young, M.D., and W. T. Russell, with the collaboration of John Brownlee, M.D., D.S., and E. L. Collis, M.D. Medical Research Council. Special Report Series, No. 99. Paper. Price, 1 shilling, 6 pence net. Pp. 50. London, 1926.

A Cholesterinemia e suas Relações com a Leucocytose (Cadeira de Clinica Medica). Por Dr. Carlos Bento. These apresentada á Faculdade de Medicina de Porto Alegre em 30 de Novembro de 1925 e defendida em 23 de Dezembro do mesmo anno. Pp. 98 with illustrations. Porto Alegre, 1925.

Cancer Mortality in Australia. A Statistical Study, 1925. By M. J. Holmes, D.S.O., M.B., D.P.H., Commonwealth Department of Health. Commonwealth of Australia, Department of Health. Service Publication No. 30. Paper. Pp. 101, with 15 charts. Melbourne, 1925.

Board of Health of the Territory of Hawaii, Bureau of Vital Statistics. Report of the Registrar General, for the year ended June 30, 1925.

The Rockefeller Foundation. International Health Board. Eleventh annual report, January 1, 1924-December 31, 1924. New York, 1925.

Annual Report of the State Board of Health of Maryland for the Year Ending December 31, 1922. Baltimore, 1926.

Jahresbericht der Abteilung Volkswohlfahrt und Landwirtschaft der Regierungskommission des Saargebietes. 1924.

Miscellany

NEW WORK ON VITAMINS

At the London Royal Society of Medicine, some new work on vitamins with important practical applications has recently been described by Prof. R. H. A. Plimmer, who discussed the relation of the quantity of vitamin B to the quantity of food. He described experiments conduced to determine how much vitamin B was needed to maintain health, and how this quantity was affected by alterations in the total quantity of fats, carbohydrates and proteins in the diet. Chickens were fed on a diet of rice and fish meal with cod liver oil and yeast extract as the sources of vitamins A and B, respectively. It was found that 8.6 per cent of yeast extract was needed to maintain health on a basal diet containing 5 parts of fish meal, but that when the protein in the diet was increased by raising the fish meal to 30 parts, deficiency symptoms appeared, the most striking of which were deficient bone formation and bow legs. These and other similar experiments proved that, when the protein of the diet was increased, the vitamin B supply also needed to be increased to maintain health. There were differences in the vitamin B requirements of animals. The amount of yeast extract needed in the diet by different animals was, approximately: fowls, 12 per cent; pigeons, 8 per cent; rats, 4 per cent; cats, more than 4 per cent. These figures suggested that man probably required a vitamin B supply equivalent to about 8 per cent of yeast extract in the diet, and showed that the vitamin requirement of an individual had a constant ratio to the total food taken. One of the chief effects of a partial deficiency of vitamin B was intestinal stasis, which resulted in retention of putrid food residues and absorption of products of putrefaction. McCarrison had noted this intestinal effect as a preliminary stage in the production of polyneuritis in pigeons deprived completely of vitamin B. In the experiments described in which there was only partial lack of vitamin B, this stage, which was only a temporary one in the acute experiments, became a chronic condition. Professor Plimmer thought that the fundamental effect of lack of vitamin B was to reduce atony of the intestine, and that polyneuritis was possibly due to absorption of some toxic products of putrefaction. These experiments raised the question as to whether the supply of vitamin B in normal human diets was adequate. He suggested that the ordinary daily diet was seriously deficient in vitamin B, but that the tendency to intestinal atony thus produced was counteracted to some extent by the widespread use of purgatives.

Prof. J. C. Drummond described new facts concerning fat soluble vitamins. The growth promoting fat soluble vitamin A was identified by McCollum in 1913. In 1919, Mellanby showed that the lack of a fat soluble factor was concerned with the production of rickets, and in 1922 McCollum brought forward proof that this antirachitic factor, now called vitamin D, was not vitamin A. Evans, during the last few years, had shown that there was a third fat soluble factor (vitamin E) necessary for reproduction. Professor Drummond said that the vitamins were not mere hypothetic substances, nor even bodies of completely unknown chemical structure, such as the bacterial toxins, but substances concerning whose chemical nature a good deal was already known. He described the fractionation of cod liver oil, and showed that the whole of the fat soluble vitamins were contained in the 1 per cent of nonsaponifiable matter in the oil. Half of the active residue was cholesterol and was inactive. Fractional distillation of the remainder under low pressures showed that the whole of the active portion was contained in the fraction boiling between 180 and 200 C., at a pressure of from 1 to 2 mm. of mercury. This active fraction consisted largely of an unsaturated alcohol. The daily dose of the most active fraction was only 0.002 mg. for a 100 Gm. rat. The recent work on the production of the antirachitic vitamin by ultraviolet rays gave much information as to the chemical nature of the antirachitic vitamin D. The discovery of Steenbock that irradiation of food produced vitamin D had led to the discovery that only oils and fats could thus be activated, and next that only the unsaponifiable matter in fats could be activated. Finally, it was shown that the exposure of chemically pure cholesterol to ultraviolet rays caused the formation of vitamin D. Prolonged exposure of cholesterol to ultraviolet rays produced a semi-solid, waxy material with an intense antirachitic action. This meant that one of the vitamins had been synthesized.

MAN AND THE GREAT APES

At the Royal College of Surgeons, in London, Sir Arthur Keith recently discussed the bearings of the fossil skull discovered near Taungs, South Africa, on current views concerning the origin of man and the ape. He said it was now certain that the skull was that of a young anthropoid ape, cousin to the two existing African anthropoid apes—the gorilla and the chimpanzee. The view originally held by Dart that the discovery had revealed an extinct family of beings which occupied a position intermediate between anthropoids and humanity could no longer be maintained. The geological evidence showed that the skull had been entombed in a limestone bluff during the Pleistocene period, at which time the earlier forms of mankind had already been evolved in other parts of the world. The discovery was important for the light it threw, not on the evolution of man, but on the history of man's nearest living relatives, the great anthropoids of Africa. Hitherto our knowledge of extinct anthropoids had had to be based on fossil fragments of a jaw or on isolated teeth, but in the present instance we had details of face, nose, teeth, skull, and even certain features of the brain. It shared some characters with the chimpanzee, others with the gorilla, while others were peculiar to itself. In size of brain the Taungs anthropoid stood above chimpanzees of its own age, but below gorillas in the fourth year of age, the age reached by the Taungs ape. This fossil ape had a narrow, long brain and head. All living anthropoids had relatively wide brains and heads tending toward roundness, save among gorillas, among which long-headed or dolichocephalic individuals did occur occasionally. Thus, the discovery at Taungs showed that among anthropoid apes there was, just as among human beings, a tendency to the production of dolichocephalic races and brachycephalic races. Changes due to age were most pronounced and brutal in the gorilla. In its cousin, the chimpanzee, there was a tendency to retain the characters of youth. This tendency to carry youthful characters into adult life had played a large part in the evolution of human races. The same tendency was seen in many features of the Taungs skull. Yet that it was destined to pass through stages which would lead on to the full structural status of the anthropoid there could be no doubt. At the time of death its first permanent molar teeth were just cutting the gums. Although the milk teeth were small—as was also the case in young gorillas—the permanent teeth were large. They were much larger than in the chimpanzee, and almost as large as those found in the gorilla. In size of jaw, the Taungs ape must have exceeded the chimpanzee.

The discovery at Taungs threw light on the climate and flora of South Africa during the Pleistocene period. Although baboons could still extract a subsistence on the dry and arid sweeps of Bechuanaland, one could not conceive of anthropoids doing so. The climate need not have been tropical, for the Kivu gorilla, although living near the equator, withstood the wet and cold encountered at an elevation of 10,000 feet. In the Pleistocene period, anthropoid apes extended 2,000 miles farther south in Africa than they did today. We might safely presume that the green and verdant belt of Africa extended an equal distance farther south than it now did, for there was no feature in the Taungs skull which suggested that the manner in which its owner walked and climbed was different from that of the gorilla.

Medicolegal

Skill and Care Required of Surgeons—Evidence

(Bungardt v. Younger (Okla.), 239 Pac. R. 469)

The Supreme Court of Oklahoma, in affirming a judgment in favor of plaintiff Younger, says that, according to his evidence, he was taken to the defendant's hospital to be treated for a broken leg. The tibia was set, a plaster cast applied, and a roentgenogram taken which showed that bone properly set. Shortly afterward the plaintiff began suffering intensely from constant pain near the ankle. He and his parents called the defendant's attention to it and suggested their belief that the fibula also was broken. The defendant assured them it was not. About three weeks after the cast was put on the defendant removed it, made an examination, and pronounced the leg all right. The next day, on further insistence by the parents, the defendant said that another roentgenogram would be taken, which was done. It showed the fibula broken near the ankle, ends overlapping, and the tibia out of apposition. The defendant said that the tibia would have to be rebroken and both bones reset, and advised the application of a Lane plate to the fracture of the tibia. The operation was performed and the leg again placed in a cast. Roentgenograms subsequently taken showed that after this operation bone absorption commenced in the broken ends of the tibia, resulting in nonunion, weakness and deformity. The plaintiff also proved by several witnesses certain declarations against interest which were said to have been made by the defendant between the time of the first setting of the tibia and that of the Lane-plate operation. The court does not think that there was such a lack of evidence of want of ordinary care and attention as would make the overruling of the defendant's demurrer to the plaintiff's evidence reversible error.

Generally the skill required of surgeons in performing an operation is ordinary skill, and the care required of them in the subsequent treatment of the patient is ordinary care. In actions for negligence in cases of this character, the plaintiff has the burden of proving want of ordinary skill in the performance of the operation or want of ordinary care in the subsequent treatment, and nonsuccess or unsatisfactory results of the operation will not alone establish the essential elements of legal detriment. However, where there is evidence of facts attending the operation or the subsequent treatment which in the ordinary affairs of life would bear a causal relation to the demonstrated result, and those facts are of such a nature as to be comprehensible and understandable to laymen of ordinary intelligence, the probative value of such evidence and the causal relation of such facts to the alleged legal detriment are questions of fact for determination by a jury under proper instructions. In such a case, where expert evidence is required to make out a cause of action, and there is evidence of declarations against interest proved to have been made by the defendant, himself an expert and assuming to treat the plaintiff with ordinary skill and care, which, with all the other facts and circumstances in evidence, tends to show a want of ordinary skill and care in such treatment and to show a causal relation of such want of skill and care with the resultant detriment complained of, such evidence is sufficient, as against a demurrer thereto, to entitle the plaintiff to go to the jury.

Negligence is not predicable on the nonsuccess of a surgical operation when reasonable skill and ordinary care are exercised in its performance, nor is negligence predicable on error of judgment in the method of treatment when ordinary care and intelligence direct such judgment. But if, in the exercise of reasonable skill and ordinary care, it ought to be discovered that an injury or ailment does not yield to the usual and approved method of treatment, the failure to discover this fact, or, if discovered, a failure to acquaint the patient with that fact, will constitute negligence.

Ordinary care is defined by the Oklahoma statute to be such care as persons of ordinary prudence usually exercise about their own affairs of ordinary importance. A want of ordinary care constitutes negligence. Of course, this character of negligence or want of ordinary care cannot be predicated on results obtained, because in that event recovery would be based purely on speculation and conjecture rather than on facts in evidence. A jury would be required to reason backward from the demonstrated result and reach a conclusion as to the causes contributing thereto, which would necessarily be theoretical. But when there is evidence of facts which a jury may grasp and understand and apply thereto a common knowledge and intelligence, the case presented is one of fact and a recovery is not based on speculation and conjecture.

Ordering of Physical Examination of Plaintiff

(Cook v. Miller (Conn.), 130 Atl. R. 571)

The Supreme Court of Errors of Connecticut says that the order of the trial court for an examination of the person of the plaintiff was a proper exercise of discretion. The discretionary right to make such an order would seem to flow legitimately from the right of a defendant to call an injured plaintiff as a witness and compel his testimony as to his injuries, or to cross-examine him relative thereto, if he testifies in his own behalf. While in a large number of states this matter is one of statutory regulation, in the states where no such regulation obtains the decided preponderance of authority favors the right of the trier in his discretion to make such an order. However, in view of the fact that the jury found for the defendant, and the only bearing that a physical examination could have had was as to the amount of damages, if error in this regard had been committed, it would have been harmless.

Issuance and Filling of Prescriptions for Narcotics

(Eckert v. United States (U. S.), 7 Fed. R. (2d) 257)

The United States Circuit Court of Appeals, Eighth Circuit, in reversing a judgment of conviction of defendant Eckert, says that he was a druggist who had registered with the collector of internal revenue as a dealer in the drugs sold. The prosecution took the broad stand that he had violated the Harrison Narcotic Act and was subject to punishment because of the large amount of drugs in the aggregate which he had sold on prescriptions within a given time—approximately the first six months of 1920, during which prescriptions filled by him totaled 228 ounces of morphine and 75 ounces of cocaine, whereas it was testified by a narcotic agent that this far exceeded the average sold by a druggist within the city of St. Louis during that time.

The trial court in its instructions to the jury accepted the theory of the prosecution and charged that the proof as to the great number of prescriptions filled by the defendant during the time selected and the total amount of drugs sold by him in filling them was for the purpose of enabling the jury to reach a conclusion on the question of the defendant's good faith, and that, if when he filled them he knew they had not been issued by the physican in good faith and in the course of the latter's professional practice only, he nevertheless filled them and gave the drugs called for therein to the parties named, the jury would be warranted in finding the defendant guilty; that if a physician issues a prescription in good faith to cure a patient or to alleviate the suffering of the patient, then the druggist has a right to fill it, but that if a physician issues a prescription not with good intent and not in good faith to effect a cure or to alleviate the suffering of the patient, but for purposes of gratifying the appetite of that patient, then such a paper cannot be called a prescription, and that if a druggist knew the prescription had been issued in that way he would violate the act in filling it

The circuit court of appeals thinks that the theory on which the case was tried and submitted to the jury was untenable, because not within the definition of any of the crimes denounced by the act It does not place on the druggist the burden of inquiry into the intent and purpose of the physician in issuing the prescriptions, to the contrary, it expressly authorizes the druggist to sell on prescriptions issued by registered physicians The law leaves entirely with the physician the responsibility as to when, under what conditions, and for what purposes he will issue a prescription for the drug Responsibility for the issuance of prescriptions is placed on the physician, not the druggist, when brought to the latter to be filled, they are his protection

Nonliability of Head of Roentgen-Ray Department

(Withington v Jennings (Mass), 149 N E R 201)

The Supreme Judicial Court of Massachusetts, in overruling exceptions to a verdict directed for the defendant, says that the plaintiff, by the advice of her family physician, in 1921 went to a hospital which was a charitable institution to have her tonsils removed by the roentgen-ray method At the hospital she was introduced to the technician who was employed by the hospital for roentgen-ray work While administering the third treatment he neglected to use a filter, and as a result the plaintiff suffered an injury for which damages were claimed The defendant was employed by the hospital, he was in charge of the roentgen-ray department, and received for his services one half of the fees paid to the hospital for roentgen-ray work He was not consulted by the plaintiff and she did not see him at any of her visits to the hospital He testified that he specialized in roentgen-ray work, that he prescribed roentgen-ray treatments but did not administer them or take roentgenograms, that this work was done at the hospital by the technician, who was a third-year medical student, employed by the hospital to do this and other work, that he gave the technician directions for the roentgen-ray treatment of tonsils; that the state of the art as "practiced in the community in 1921 called for a standardized dosage without examination by him of the patient", that it was not customary for physicians to administer roentgen-ray treatments or take roentgen-ray pictures; that this work was customarily done by persons having experience in using the roentgen-ray machine, and that he understood that the technician had considerable experience in this work before coming to the hospital

The technician was not employed by the defendant, he was not the defendant's agent or servant They were fellow employees of the hospital The defendant was not responsible for the neglect of the technician in administering the treatment, which was entirely in his control The evidence did not show that any negligent act of the defendant contributed to the plaintiff's damage, he did not participate in the operation, and was not liable for her injury The verdict was directed for the defendant properly The evidence offered by the plaintiff, and excluded by the trial judge, that the defendant's high reputation as a roentgen-ray expert influenced her decision to take the roentgen-ray treatments in his department, was not material and was rightly excluded

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Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Dallas, April 19 23 Dr Olin West, 535 N Dearborn Street, Chicago, Secretary

Alabama, Medical Association of the State of, Mobile, April 27 30 Dr D L Cannon, 519 Dexter Avenue, Montgomery, Assistant Secretary

American Association for the Study of Allergy, Dallas, April 20 Dr. A H Rowe, 242 Moss Avenue, Oakland, Calif, Secretary

American Association of Genito Urinary Surgeons Hot Springs, Va, May 10 12 Dr H G Bugbee, 40 E 41st Street, New York, Secretary.

American Association of Industrial Physicians and Surgeons, Philadelphia, May 24 26 Dr F L. Rector, 22 East Ontario Street, Chicago, Secretary

American Bronchoscopic Society, Montreal, Canada, May 29 Dr. Henry B Orton 671 Broad Street, Newark, N J, Secretary

American Child Health Association, Atlantic City, May 17 22 Dr. S J Crumbine, 370 7th Ave, New York City, Secretary.

American Dermatological Association, Niagara Falls, Canada, May 27 29 Dr C Guy Lane, 416 Marlborough Street, Boston, Secretary

American Gastro Enterological Association, Atlantic City, May 3 4 Dr. John Bryant, 338 Marlborough Street, Boston, Secretary

American Gynecological Society, Stockbridge, Mass, May 20 22 Dr. A H Curtis, 104 S Michigan Ave, Chicago, Secretary

American Laryngological Association, Montreal, Canada, June 3 5 Dr George M Coates, 1811 Spruce Street, Philadelphia, Secretary

American Laryngological, Rhinological, and Otological Society, Montreal, Canada, May 31 June 2 Dr Robert L Loughran, 145 West 58th Street, New York, Secretary

American Neurological Association, Atlantic City, June 1 3 Dr. Henry A. Riley, 870 Madison Avenue, New York, Secretary

American Orthopedic Association, Atlanta, April 26 28 Dr De Forest P. Willard, 1630 Spruce Street, Philadelphia, Secretary

American Otological Society, Montreal, Canada, May 31 June 3 Dr. Harold Walker, 390 Commonwealth Avenue, Boston, Secretary

American Pediatric Society, Niagara Falls, Canada, May 31 June 2 Dr Howard Childs Carpenter, 1805 Spruce Street, Philadelphia, Secretary

American Proctologic Society, Indianapolis, April 16 17. Dr. William A. Rolfe, 331 Beacon Street, Boston, Secretary

American Roentgen Ray Society, Detroit, May 18 22 Dr C L Martin, Baylor Hospital, Dallas, Texas, Secretary

American Society of Clinical Investigation, Atlantic City, May 3 Dr. J H Austin, University of Pennsylvania, Philadelphia, Secretary

American Society of Clinical Pathologists, Dallas, April 15 17 Dr Ward T Burdick, Metropolitan Building, Denver, Colo, Secretary

American Surgical Association, Detroit, May 24 26 Dr R B Greenough, 8 Marlborough Street, Boston, Secretary

American Urological Association, Boston, May 17 19 Dr H G Hamer, 723 Hume Mansur Building, Indianapolis, Ind, Secretary

Arizona Medical Association, Globe, April 25 27. Dr D F. Harbridge, 407 Goodrich Building, Phoenix, Secretary.

Arkansas Medical Society, Hot Springs, May 18 20 Dr W. R Bathurst, 810 Boyle Building, Little Rock, Secretary

Association for the Study of Internal Secretions, Dallas, April 20 Dr. F M Pottenger, Title Insurance Building, Los Angeles, Secretary

Association of American Physicians, Atlantic City, May 4 5. Dr. F W. Peabody, Boston City Hospital, Boston, Secretary

California Medical Association, Oakland, April 26 May 1. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary

Conference of State and Provincial Health Authorities, Atlantic City, N J, May 21 22 Dr Richard M Olin, State Commissioner of Health, Lansing, Mich, Secretary

Connecticut State Medical Society, New Haven, May 19 20. Dr C W. Comfort, Jr 27 Elm Street, New Haven, Secretary

Florida Medical Association, Gainesville, May 3 5 Dr Shaler Richardson, 111 W Adams Street, Jacksonville, Secretary

Georgia, Medical Association of, Albany, May 12 15 Dr A H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.

Hawaii Territorial Medical Association, Honolulu, April 25 28 Dr. F. J. Pinkerton, 46 Young Building, Honolulu, Secretary

Illinois State Medical Society, Champaign, May 18 20 Dr H M Camp, Lahl Building, Monmouth, Secretary

Iowa State Medical Society, Des Moines, May 12 14 Dr T. B Throckmorton, Bankers Trust Building, Des Moines, Secretary

Kansas Medical Society, Kansas City, May 4 6 Dr. J F. Hassig, 804 Elks Building, Kansas City, Secretary

Louisiana State Medical Society, Monroe, April 15 17. Dr. P T Talbot, 1551 Canal Street, New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 27 29. Dr J A Chatard, 1211 Cathedral Street, Baltimore, Secretary

Medical Women's National Association, Dallas, April 18 19 Dr Lena K Sadler, 533 Diversey Parkway, Chicago, Secretary

Minnesota State Medical Association, St Paul, May 17 19. Dr. E A Meyerding, 11 W Summit Avenue, St Paul, Secretary

Mississippi State Medical Association, Jackson, May 11 13 Dr T M Dye, McWilliams Building, Clarksdale, Secretary

Missouri State Medical Association, St Louis May 17 20. Dr E J Goodwin, 901 Missouri Building, St Louis, Secretary

Nebraska State Medical Association, Omaha, May 11 13 Dr R B Adams, McKinley Building, Lincoln, Secretary

New Hampshire Medical Society Concord, May 25 26 Dr D E Sullivan, 7 North State Street, Concord, Secretary

New Mexico Medical Society, Albuquerque, May 19 21 Dr C M Yater, 310 N Richardson Avenue Roswell, Secretary

North Dakota State Medical Association, Minot, May 25 26 Dr A. J. McCannell, Minot Secretary

Ohio State Medical Association, Toledo, May 11 13 Mr Don K Martin, 131 E State Street, Columbus Executive Secretary

Rhode Island Medical Society, Providence, June 3 Dr J W Leech, 369 Broad Street, Providence, Secretary

South Dakota State Medical Association, Aberdeen, May 19 20 Dr. John F D Cook, Langford, Secretary

Tennessee State Medical Association, Memphis, May 11 13 Dr J F. Gallagher, Jackson Building, Nashville, Secretary

Texas State Medical Association of, Houston, May 24 27. Dr Holman Taylor, 207½ West 11th Street, Fort Worth, Secretary

Utah State Medical Association, Salt Lake City, May 6 8 Dr F B Steele, Boston Building, Salt Lake City, Secretary

West Virginia State Medical Association, Morgantown, May 25 27 Mr S O Neale, 211 Smallridge Building, Charleston, Executive Secretary

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

171: 1-156 (Jan.) 1926

*Endocrine Influence on Metabolism. W. B. Cannon, Boston.—p. 1.
*Effect of Roentgen-Ray Irradiation on Red Blood Cell Production in Cancer and Leukemia. R. Isaacs, Boston.—p. 20.
*Association of Diabetes Insipidus with Osteitis Fibrosa Polycystica. J. D. Heard, F. L. Schumacher and W. B. Gordon, Pittsburgh.—p. 38
Human Cerebrospinal Fluid in System and Diffuse Degenerative Disease Involving Nervous System. C. A. Patten, Philadelphia.—p. 48.
*Electrocardiogram in Myxedema. C. Thacher and P. D. White, Boston. —p. 61.
Megacolon: Résumé of Literature; Case; Ramisection Proposed as Form of Treatment. H. J. Bartle, Philadelphia.—p. 67.
*Treatment of Abscess of Lung. J. A. Miller and A. V. S. Lambert, New York.—p. 81.
*Bacterial Vaccines in Asthma. G. T. Brown, Washington, D. C.—p. 94.
Mechanism of Flow of Bile from Liver Into Intestines. A. Winkelstein and P. W. Aschner, New York.—p. 104.
*Blood Pressure Lowering Principle in Seed of Watermelon (Cucurbita Citrullus). I. S. Barksdale, Charleston, S. C.—p. 111.

Endocrine Influence on Metabolism.—In Cannon's opinion an attempt at present to develop an elaborate and intricate conception of the interrelations of the endocrine glands would be altogether premature and might be quite misleading. The necessary factors are not at hand. But the idea that endocrine factors play an important rôle in establishing and maintaining physiologic equilibriums is reasonable and moderate in its scope, and does not involve a far reaching projection of theory into the unknown.

Effect of Roentgen-Ray Irradiation on Red Blood Cell Production in Cancer and Leukemia.—From the evidence of the effect of irradiation on young red blood cells, Isaacs thinks that all roentgen-ray irradiation may be considered as stimulative. Small doses may stimulate to division, large doses may stimulate maturity and, hence, death from senility, the rate for each tissue varying with its specific growth properties. Cases of cancer and leukemia, in which the increase in granule red corpuscles after irradiation is significant and sustained (two or more days), show a definite clinical improvement, and no leukopenia develops. In those cases in which there is no evident increase in the granule red corpuscles after irradiation, there is usually no clinical improvement in the irradiated lesion. If the increase is temporary (twenty-four hours or less), and is followed by an abrupt decrease, the results are those of too much irradiation, a leukopenia develops, and the patient may become worse clinically.

Association of Diabetes Insipidus with Osteitis Fibrosa Polycystica.—A case is reported by Heard, Schumacher and Gordon, in which occurred the exceedingly rare association of osteitis fibrosa polycystica with diabetes insipidus. The generalized bone disease followed local trauma to the skull. The polydypsia and polyuria did not appear until the osteitis fibrosa was well advanced.

Electrocardiogram in Myxedema.—Fourteen cases of myxedema, studied by Thacher and White, showed consistently a low T wave in lead II before treatment with increase in positive amplitude after treatment. Thus, there is a distinct parallelism between the T wave of the electrocardiogram and the basal metabolic rate in hypothyroidism. In addition, there is a general decrease in potential of all electrocardiographic deflections in all leads in myxedema, with increase after treatment. This same so-called "low potential" in all leads is also found in myocardial exhaustion due to serious coronary sclerosis. This fact is evidence that the heart action is sluggish during myxedema, in accord with the recent finding of Einthoven that the electrical and mechanical expressions of muscular activity are not only synchronous but also tend to be parallel in degree. The T wave in lead II may also be lowered by digitalis; but the "digitalis T" is somewhat different from the "myxedema T" or the "myocardial weakness T," the deflection being more often diphasic, particularly with the S-T interval inverted.

Treatment of Abscess of Lung.—Miller and Lambert aver that the successful treatment of cases of abscess of the lung is materially aided by their joint management by internist and surgeon, with the close cooperation of a skilled bronchoscopist. A systematic plan of prolonged rest, combined with postural drainage, is the basic method of treatment. Into this plan the other methods may be introduced advantageously in properly selected cases. Bronchoscopy is of real value as an aid to drainage in certain cases. Artificial pneumothorax has a very limited field of usefulness. Approximately from 40 to 50 per cent of all cases will eventually need radical surgical treatment. Correct judgment of the indications for operation is the crucial element in successful treatment. In general, it is based on the avoidance of surgical intervention during the acute phases of the disease but without delaying too long and thus allowing the case to drift into the chronic stage

Bacterial Vaccines in Asthma.—One hundred and forty-four cases of asthma have been treated by Brown with bacterial vaccines in accordance with a method described, and of these cases 51 per cent were completely relieved of asthma, 39 per cent were improved in varying degrees, and 10 per cent were unimproved.

Blood Pressure Lowering Principle in Seed of Watermelon.—Barksdale is of the opinion that the active principle of the seed of *Cucurbita citrullus*, to which the name of cucurbocitrin has been given, is evidently a substance belonging to the glucoside-saponin group manifesting certain pharmacologic actions worthy of further study. When both the crude extract and the active principle of the seed were taken orally a number of times, the outstanding effect was a prompt lowering of blood pressure by capillary dilatation, which, in turn, diminishes the peripheral resistance, thereby relieving the laboring heart of a tremendous load. Necropsies on rabbits following lethal doses of the active principle showed congestion and hemorrhages of lungs, liver and kidneys, and marked dilatation of the blood vessels of the bladder wall, with a coincident enormous flow of mucus bathing the cystic mucosa, suggestive of selective action by the drug. With clinical trials in a limited number of cases of moderately increased blood pressure in man, Barksdale obtained a lowering in both systolic and diastolic pressures with a corresponding lowering in the pulse pressure in most of the cases studied. The pulse apparently becomes more stable, and the patients experienced greater comfort; some of them were able to tell when the pressure was rising after the drug had been denied for a few days. In four cases of acute cystitis, the clinical relief was very prompt. In all of the clinical trials, no ill effects were noticed, and for this reason, the drug cannot be considered toxic even in very large doses. It possesses a rather slow and prolonged action. The results in the presence of pronounced arteriosclerosis seem to be very slight. The usefulness of this drug is suggested in cardiorenal conditions, and, perhaps, the other forms, also to the probable specific relief of acute and chronic pathologic conditions of the urinary bladder.

Annals of Clinical Medicine, Baltimore

4: 449-523 (Dec.) 1925

*Essential Thrombocytopenia. W. F. Hamilton and T. R. Waugh, Montreal.—p. 449.
*Blood in Hypertension; Relationship Between Anemia and Renal Insufficiency. S. F. Adams and G. E. Brown, Rochester, Minn.—p. 463.
Factors Concerned in Production and Healing of Peptic Ulcer, Results of Treatment of 470 Patients by "Physiologic Rest" Regimen. F. Smithies, Chicago.—p. 468.
*Diverticula of Esophagus. C. H. Jewett and J. A. Lichty, Clifton Springs, N. Y.—p. 488.
Rational Use of Wassermann Reaction. S. R. Haythorn, Pittsburgh —p. 493.
Wassermann Reaction as Index of Therapeutic Efficiency of Antisyphilitic Drugs. D. L. Belding, Boston.—p. 501.

*Pentosuria; Five Cases in One Family. H. W. Jones and C. W. Nissler, Philadelphia.—p. 505.
Common Sense in Management of Impotence in Male. M. Huhner, New York.—p. 510.

Essential Thrombocytopenia.—The four cases reported by Hamilton and Waugh are said to emphasize one very important practical point, namely, the seriousness of the condition and the need for prompt splenectomy; perhaps not in all cases, because the thrombocytopenic state seems to be in a way a relative affair, but most certainly in cases in which spontaneous hemorrhage occurs. Under such conditions one never knows when bleeding may take place in the brain, and once a diagnosis of essential thrombocytopenia has been made, splenectomy should be performed without delay.

Hypertension; Relation Between Renal Insufficiency and Anemia.—In seventy-six cases of hypertension, the relationship between renal insufficiency and anemia was studied by Adams and Brown. This study seems to show that there is a close parallelism between erythrogenic and renal function in cases of hypertension, similar to that found in glomerulonephritis. In cases of hypertension with arteriosclerosis during periods of renal failure, the hemoglobin and erythrocytes were diminished. The recovery of the blood does not parallel the recovery of renal function. The presence of anemia in cases of primary hypertension and consequent arteriosclerosis, in the absence of complicating disease or gross loss of blood, is regarded as being good evidence of existing or preexisting renal insufficiency.

Diverticula of Esophagus.—In four of the six cases reported by Jewett and Lichty there was present an apparent oversupply of saliva and it is believed that this is of pathognomonic significance. The authors are of the opinion that advancing age may furnish a reasonable cause for most of the diverticula of the esophagus, except for those caused by a previous inflammatory condition in and about the esophagus. The explanation given is that the years and years of swallowing consequent to long life finally produce a separation of muscle bundles; then the mucous membrane, with the submucosa, protrudes through the chink, thus forming a diverticulum. The pouch is most likely to occur at the upper end of the esophagus because the direct pressure brought about by the act of swallowing seems greater in the intrapharyngeal region than elsewhere.

Familial Pentosuria.—Jones and Nissler report five cases occurring in one family, all of the essential type. The initial case was one of cyanide poisoning in which both glucose and pentose were found. The dextrosuria was complicating. The only symptoms that these patients presented were those of an unstable autonomic nervous system. Pentosuria does not become dextrosuria.

Archives of Internal Medicine, Chicago

37: 1-150 (Jan. 15) 1926

*Liver Injury in Thyrotoxicosis as Evidenced by Decreased Functional Efficiency. J. B. Youmans and L. M. Warfield, Ann Arbor, Mich.—p. 1.
*Hyperglycemia; II. Physical and Chemical Studies of Human Blood from Cases of Diabetes Mellitus. L. Foshay, Cleveland.—p. 18.
*Peculiar Forms of Infection Caused by Typhoid Bacillus. A. Landau and M. Fejgin, Warsaw, Poland.—p. 32.
*Effect of Heart Muscle Disease on Electrocardiogram. A. W. Master and H. E. B. Pardee, New York.—p. 42.
*Comparison of Acute Rheumatic and Subacute Bacterial Endocarditis. B. J. Clawson and E. T. Bell, Minneapolis.—p. 66.
*Water Metabolism. E. Andrews, Chicago.—p. 82.
*Glucose Utilization in Renal Glycosuria. J. E. Paullin, Atlanta, Ga.—p. 88.
*Physiology of Synovial Fluid. F. A. Cajori, G. Y. Crouter and R. Pemberton, Philadelphia.—p. 92.
*Blood Sugar Curves in Epidemic Encephalitis. J. Kasanin and G. P. Grabfield, Boston.—p. 102.
*Intestinal Chemistry. III. Salivary Digestion in Human Stomach and Intestines. O. Bergeim, Chicago.—p. 110.
*Parallelism in Treatment of Tuberculosis and Cardiac Disease. H. J. Howk, Mount McGregor, N. Y.—p. 118.
*Vital Capacities of One Thousand Surgical Patients. H. J. Moersch, Rochester, Minn.—p. 128.
*Refractometric and Viscosimetric Indexes of Cerebrospinal Fluid. A. Levinson and A. M. Serby, Chicago.—p. 144.

Liver Injury in Thyrotoxicosis.—Tests of liver function have been made by Youmans and Warfield in forty-four patients with thyrotoxicosis. In twenty-eight of the patients tests of the glucose tolerance also were made. Twenty-two, or 50 per cent, of the patients in this series showed an impairment of liver function according to the tests of liver function used. Twenty-one of the twenty-seven cases satisfactorily tested showed a decreased glucose tolerance. No relation was found to exist between the functional efficiency of the liver as tested and the glucose tolerance, basal metabolic rate or other features of the disease, except loss of weight. The impairment of liver function in thyrotoxicosis seems to be associated to some degree with loss of weight.

Blood Alkalinity in Diabetes Mellitus.—Foshay found that in young, untreated diabetic patients there is evidence of some diminution of the blood alkalinity at all times. This rapidly disappears under insulin treatment. In untreated, arteriosclerotic diabetic patients there is no evidence of diminished blood alkalinity unless the patient is nearly in coma. In a case of extreme exsiccation from water deprivation cited, the blood picture was similar to that which occurs in acute diabetic coma. The chief differences are the greater retention of inorganic salts and a lesser glycemia.

Focal Typhoid Infections.—Five cases of typhoid infection in various localizations entirely devoid of the clinical picture of typhus abdominalis, and probably without its characteristic anatomic changes, are reported by Landau and Fejgin. In one case, in the absence of all clinical symptoms of typhoid, there was only the multilocular and characteristic localization of the infection which attacked at the same time the liver, the respiratory tract (broncholitis sinistra inferior) and the kidney. The second case was an infection produced by the Eberth bacillus under the form of an acute hemorrhagic inflammation of the large bowel, and an inflammation of the kidney pelvis, all without any clinical symptoms of typhoid. In the three remaining cases the typhoid infection took the form of an acute illness of the liver and bile ducts, with jaundice, leukocytosis and neutrophilia, although in its further course were observed symptoms of typhoid—diarrhea, swelling of the spleen, etc. On postmortem examination in one of these cases, none of the characteristic changes of typhoid fever were seen, especially no affections of the mucous membrane of the intestine. The authors warn against assuming that the existence of typhoid bacteremia and a positive Widal reaction in high dilution, 1:400, 1:800, along with a high temperature is always an absolute proof of typhoid.

Effect of Heart Muscle Disease on Electrocardiogram.—The outstanding feature of the study reported on by Master and Pardee seems to be the variability of the electrocardiographic abnormality when extensive chronic lesions of the ventricular muscle are present. There was apparently no specific relation between the type of electrocardiographic abnormality and the pathologic process found in the heart.

Acute Rheumatic and Subacute Bacterial Endocarditis.—Eighty cases of subacute bacterial endocarditis that came to necropsy are compared by Clawson and Bell with thirty-five cases of rheumatic endocarditis, eighteen of which came to necropsy. The remaining seventeen are typical cases of rheumatic endocarditis clinically, and *Streptococcus viridans* was isolated from all of them. The authors assert that experimental endocarditis and myocarditis similar to human rheumatic lesions can be produced in rabbits by injecting streptococci. The streptococci, generally the viridans strains, seem to be responsible for both rheumatic and subacute bacterial endocarditis.

Water Metabolism.—Andrews is of the opinion that certain hitherto inexplicable clinical phenomena may be explained on the basis that the water reserve is an active factor in water absorption and excretion.

Glucose Utilization in Renal Glycosuria.—The results of the administration of glucose on the respiratory quotient, total metabolism, blood sugar and glucose excretion in four cases of renal glycosuria are given by Paullin. Apparently, patients with renal glycosuria metabolize and store carbohydrate in the same way as normal persons. So far as the evidence points, they do not develop diabetes mellitus.

Physiology of Synovial Fluid.—The concentration of certain of the chemical constituents of nonpurulent synovial fluid from arthritic patients with joint effusion has been determined by Cajorie et al. Changes in the composition of the blood have been induced experimentally by glucose feeding, administration of sodium bicarbonate and exposure to external heat. The effect of such blood changes on the composition of synovial fluid has been observed. The concentration of the diffusible constituents of synovial fluid uninfluenced by experimental feeding closely approaches that of blood plasma. It has been found that, following glucose ingestion, the sugar concentration of synovial fluid promptly rises to a level as high as, or higher than, that in venous blood. It is concluded from such experiments that diffusible substances pass easily from the blood to the synovial fluid and that the gastrointestinal tract must be regarded as being in surprisingly close communion with the joint fluids. The possibility of detriment from this source is pointed out. The adequacy of the synovial fluid for the nutrition of cartilage from the standpoint of carbohydrate and energy yielding content is clearly indicated. Experiments involving changes in the acid base equilibrium of the blood have not shown corresponding changes in the synovial fluid.

Blood Sugar Curves in Epidemic Encephalitis.—The blood sugar curves performed by Kasanin and Grabfield in seventeen cases diagnosed epidemic encephalitis or its sequelae deviated from the best established norm with such frequency that it may be concluded that there is a fundamental disturbance of the sugar metabolism in this disease. The derangement of the sugar metabolism persists in patients suffering from mental sequelae of this disease.

Salivary Digestion.—Studies of salivary digestion in the stomachs of normal men reported on by Bergeim showed on the average 76 per cent of the starch of mashed potatoes and 59 per cent of the starch of bread to be converted into maltose, an additional percentage being changed to dextrins. This considerable degree of starch conversion was generally brought about within from fifteen to thirty minutes after the meal was finished, active amylase disappearing and free hydrochloric acid appearing simultaneously. To function in the intestine, saliva must escape the action of acid gastric juice.

Treating Cardiac Patients in Tuberculosis Sanatorium.—Howk details the results obtained in the treatment of 440 cardiac patients in a tuberculosis sanatorium. The general plan of treatment provides for complete bed rest of every admitted patient until the essential examinations have been made, the period of rest depending on the condition of the vascular system and the patient's response to treatment. In the sanatorium, the period of bed rest has averaged forty-five days. The patient's physical resources are tested gradually to determine the limits within which he can exercise without danger. This period of graduated exercise is continued persistently until it is demonstrated either that the vascular system has not enough resources to enable the patient to resume work, or until he can take up an occupation.

Vital Capacity of Surgical Patients.—Determinations of the vital capacity of the lungs are not regarded by Moersch as a diagnostic measure in itself, but rather as an aid to diagnosis, just as the use of the thermometer and sphygmomanometer are aids.

Refractometric and Viscosimetric Indexes of Cerebrospinal Fluid.—Sixty-six specimens of cerebrospinal fluid obtained by Levinson and Serby from nonmeningitic and nonsyphilitic patients gave a refractometric reading of from 1.33472 to 1.33545, with an average of 1.33508. There were two exceptions to this rule, namely, one case of hydrocephalus and one case of compression myelitis, both of which gave an unusually high reading. In fluid from active and inactive syphilis, the refractometric reading varied between 1.33513 and 1.33557, with an average of 1.33525. Seven cases of tuberculous meningitis gave refractometric readings varying between 1.33475 and 1.33616, with an average of 1.33530. In fifteen fluids from three cases of meningococcus meningitis, the readings varied between 1.33487 and 1.33644 with an average reading of 1.33544. Eleven fluids from seven cases of other forms of purulent meningitis varied between 1.33497 and 1.33924, with an average reading of 1.33618. The viscosity in sixty-two out of sixty-six fluids from nonmeningitic cases ranged between 1.04 and 1.09, with an average reading of 1.05. The viscosity in seven fluids from cases of tuberculous meningitis varied between 1.05 and 1.18, with an average reading of 1.09. The viscosity in fifteen fluids of meningococcus meningitis varied between 1.07 and 1.14, with an average of 1.11. The viscosity in fluids from other forms of suppurative meningitis also averaged 1.11.

Archives of Otolaryngology, Chicago

3: 99-204 (Feb.) 1926

Blastomycosis of Larynx; Case. C. Jackson, Philadelphia.—p. 99.
Auditory Acuity Tests. Comparison of Two Types of Audiometers. C. C. Bunch, Iowa City.—p. 108.
Touch as Substitute for Hearing in Interpretation and Control of Speech. R. H. Gault, Washington, D. C.—p. 121.
Quantitative Tests on Bone and Air Acuity in Paracusis Willisi. A. G. Pohlman, St. Louis and F. W. Kranz, Geneva, Ill.—p. 136.
Alternating Weber Test: New Method of Determining Weber Lateralization in Doubtful Cases. D. Macfarlan, Philadelphia.—p. 144.
Two Cases of Primary Mastoiditis. J. I. Kemler, Baltimore.—p. 149.
Meningococcic Mastoiditis. O. J. Dixon, Kansas City, Mo.—p. 151.
Nasal Ganglion; Vertigo, Paragensia and Glossodynia. S. L. Ruskin, New York.—p. 153.

Boston Medical and Surgical Journal

194: 233-280 (Feb. 11) 1926

*Tragedies of Tooth Extraction. G. Blumer, New Haven, Conn.—p. 233.
Relation of Surgical Posture to Post-Tonsillectomy Pulmonary Abscess. W. R. O'Reilly, Boston.—p. 237.
Conservation of Life and Health by Means of Periodical Health Examinations. F. H. McCrudden, Boston.—p. 240.
*Malaria in New England. M. J. Quinn, South Manchester, Mass.—p. 244.
Treatment of Surgical Complications of Diabetes Mellitus. R. C. Cochrane, Boston.—p. 247.

Tragedies of Tooth Extraction.—Blumer cites five cases of infection which followed the extraction or treatment of infected teeth. The different types of fatal lesion which may result from tooth infection are grouped as follows: (1) Direct extension of the local inflammatory process with spreading inflammation, which may even invade the mediastinum, and death from toxemia; (2) metastasis to neighboring tissues, such as occurs in cases of meningitis or thrombosis of the cerebral sinuses following tooth extraction; (3) general septicemia or septicopyemia, which may terminate in (*a*) acute septicemia with or without endocarditis; (*b*) chronic septicemia with degenerative processes in the internal organs, or (*c*) prolonged septicopyemia with the formation of abscesses.

Malaria in New England.—Quinn's investigation show that malaria, which has existed in New England since 1634, is still epidemic in southern New England.

194: 281-328 (Feb. 18) 1926

*Heliotherapy. J. B. Hawes, 2d, Boston.—p. 281.
Erythema Arthriticum Epidemicum. E. H. Place, Boston.—p. 285.
Some Errors in Surgical Diagnosis. I. J. Walker, Boston.—p. 287.
Devices Useful in School Clinics. C. M. Kelley, Boston.—p. 290.
*Easy Method of Estimating Amount of Jaundice by Means of Blood Serum. W. P. Murphy, Boston.—p. 297.

Heliotherapy.—Hawes describes his methods of using sunlight treatment among patients in their own homes scattered in New England. He shows how easily this can be done, providing certain dangers are guarded against. Sunlight treatment is indicated in practically all cases of nonpulmonary, or so-called surgical, tuberculosis. It is not indicated in febrile cases of pulmonary disease or when there is other evidence that the condition is active. Actual sunlight is better than artificial sunlight. If the latter is used by means of a lamp it should be as an adjunct to exposure to actual sunlight. Hawes stresses the fact that heliotherapy should not be regarded as the only means of treatment nor as the most important means of treatment, but as an adjunct to rest, fresh air, proper nourishment and general hygiene. Signs and symptoms of too much sunlight, whether artificial or real, are the same as a tuberculin reaction, probably from the same cause. They are increased temperature and pulse, general malaise, headache, debility, with sometimes renewed activity in the tuberculous focus. Sunlight treatment, whenever possible, should be done under the supervision of the physician in pulmonary cases. This is absolutely essential. Sunlight treatment, in some form or another, can be carried on in the patient's home and does not necessarily require sânatorium or hospital equipment. Sunlight treatment should be carried on methodically and if possible according to a definite schedule.

Icterus Index Test in Anemias.—Murphy regards the icterus index test as a reliable aid in differentiating between primary and secondary types of anemia. Slight and transient jaundice, such as may follow an acute gallstone colic, may be demonstrated in most instances. The course of a jaundiced case may be followed more accurately than is possible by means of simple observation. It may be possible to prevent serious liver upsets in patients under treatment with arsphenamine, if treatment be discontinued following rise in the icterus index.

Indiana State Medical Association Journal, Ft. Wayne

19: 51-92 (Feb.) 1926

Factors in Management of Peritonitis. W. W. Babcock, Philadelphia. —p. 51.
Appendicitis. A. C. McDonald, Warsaw.—p. 58.
Iodine in Treatment of Exophthalmic Goiter. A. S. Giordano, South Bend.—p. 63.
Drugs in Treatment of Heart Disease. G. S. Bond, Indianapolis.—p. 65.
Transverse Presentation. H. D. Fair, Muncie.—p. 69.

Johns Hopkins Hospital Bulletin, Baltimore

38: 1-82 (Jan.) 1926

Advances in Knowledge of Ductless Glands. J. J. Abel, Baltimore.—p. 1.
Protective Substance in Antipneumococcus Serum. L. D. Felton, Boston. —p. 33.
Studies on Supravitally Stained Living and Dead Leukocytes and Epithelial Cells in Vagina of Rat. Their Relation to Ovulation Cycle. A. F. Guttmacher, Rochester, N. Y.—p. 61.
*Certain Hitherto Undescribed Antirachitic Substances. A. de Bosanyi, Boston.—p. 72.

New Antirachitic Substances.—De Bosanyi found that healing of experimental rickets may be induced by certain hitherto unrecognized antirachitic substances. These are: a histon—the globin of hemoglobin; a diamino-acid—cystine; an aromatic compound—epinephrine, and an alkaloid, pilocarpine.

Journal of Industrial Hygiene, Baltimore

8: 51-88 (Feb.) 1926

*Potential Public Health Hazards from Use of Ethyl Gasoline. F. B. Flinn, New York.—p. 51.
*Four Cases of Poisoning by Mononitrochlorobenzene, One by Acetanilide. A. Renshaw and G. B. Ashcroft, Manchester, England.—p. 67.
*Prophylaxis in Industrial Lead Poisoning. D. McKail, Glasgow, Scotland.—p. 74.
Organization and Operation of Health Department of Tennessee Coal, Iron and Railroad Company. L. Noland, Fairfield, Ala.—p. 78.

Is Ethyl Gasoline Poisonous?—Experiments done by Flinn indicate apparently that animals exposed to skin application of ethyl gasoline will store lead; also that the rate of excretion does not equal the rate of absorption. It was noticed at various times that if for any reason the animal which may appear sick was not exposed for several days, it will show a marked improvement. Evidently its condition before the rest was due to lead exposure. This may account for the fact that so far no cases of lead poisoning have been found at filling stations or in garages. The time between the man's exposures may be long enough to permit him to remain in apparent good health though he may be storing lead. It may take years before he stores enough or before a sufficient change takes place in his metabolism to cause the symptoms commonly attributed to lead poisoning. The fact to bear in mind is that there is no doubt that a storage of lead takes place under exposure, and that lead stored in the body constitutes a potential lead poisoning.

Nitrobenzenes Are Poisonous.—Observations of cases has led Renshaw and Ashcroft to the conclusion that mononitrochlorobenzene is a poison affecting chiefly the blood, as is also the case with other nitrobenzene compounds. Its effect is cumulative, and when a sufficient quantity has been absorbed, toxic effects may occur which are hastened in some cases by a meal or by alcoholic drinks. Toxic effects may be delayed owing to the gradual action on the hemoglobin of the blood. Thus all these patients collapsed some hours after leaving work. The cyanosis and collapse appeared to progress to a maximum, after which gradual recovery, extending over some weeks, occurred. The dyspnea on exertion seemed to develop in each case a day or two later and to correspond with the period of the lowest red cell count; as the patient's dyspnea and cyanosis disappeared, the blood picture approximated more and more to the normal. In this type of poisoning there is an initial collapse, a typical color, and a delayed anemia with a high color index. There is no jaundice, and no nucleated red cells were seen in any film. Some red cell distortion and a few small forms are the only changes noted. The white cells are not affected.

Prophylaxis in Industrial Lead Poisoning.—To obviate the possibility of lead absorption in lead workers McKail proposes that the mouth, teeth and gums be washed well with a solution containing soluble sulphates, such as magnesium and sodium, and sulphuric acid, the acid being added to activate the solution, and that some of the solution be swallowed. Thus, such soluble lead as may have been swallowed in the saliva and pharyngeal secretions, and even postnasal excretions, will be precipitated in the stomach. It is recommended that the solution should be used at all cessations from work, which would be two or three times a day.

Kansas Medical Society Journal, Topeka

26: 37-70 (Feb.) 1926

Fractures. A. R. Hatcher, Wellington.—p. 35.
Diverticulitis of Colon. W. M. Mills, Topeka.—p. 39.
Relation of Dental Infection to Systemic Disease. R. L. Haden, Kansas City, Mo.—p. 41.
Blastomycosis; Four Cases. S. T. Millard and W. B. Goddard, Topeka. —p. 47.
Focal Infection. O. E. Stevenson, Oswego.—p. 51.

Medical Journal and Record, New York

123: 141-212 (Feb. 3) 1926

Case Against Indiscriminate Surgery for Peptic Ulcer. W. A. Bastedo, New York.—p. 141.
Habitual or Recurrent Dislocation of Shoulder. T. T. Thomas, Philadelphia.—p. 145.
Otitis Media Purulenta Acuta. L. S. Smith, Brooklyn.—p. 148.
Anaphylaxis. S. Pern, Melbourne, Australia.—p. 150.
Phantasy Method of Analyzing Narcisistic Neuroses. L. P. Clark, New York.—p. 154.
Diverticulosis. C. J. Drueck, Chicago.—p. 158.
Acute Myeloid Leukemia. M. Gordon, Brooklyn.—p. 163.
New Instrument for Use of Heliotherapy. J. W. Kime, Fort Dodge, Iowa.—p. 164.
Treatment of Laryngeal Tuberculosis with Goerz, Wessely Lamp. J. W. Miller, New York.—p. 166.
Affections of Respiratory System in Relation to Joint Tuberculosis. H. Keller, New York.—p. 169.
Acute Disseminated Bronchopneumonia Simulating Acute Miliary Tuberculosis. J. Blechschmidt, H. Perlman and L. S. Cohen, Philadelphia. —p. 174.
Tracheobronchoesophagoscopy. W. B. White, Stamford, Conn.—p. 178.
Bronchoscopic Treatment of Bronchial Asthma and Chronic Bronchitis. J. P. De River, San Francisco, Calif.—p. 180.
Three Cases of Abscess of Larynx. J. C. Seal, New York.—p. 182.
Etiology of Common Cold. A. Brashear Jackson, Washington, D. C. —p. 183.
Kenelm Digby; Amateur Physician. L. J. Bragman, Syracuse, N. Y. —p. 185.

New Orleans Medical and Surgical Journal

78: 483-556 (Feb.) 1926

Cardiospasm. P. P. Vinson, Rochester, Minn.—p. 483.
Focal Infection. S. E. Eason, New Albany, Miss.—p. 490.
*Prostatitis: Rôle in Focal Infection. H. W. E. Walther, New Orleans. —p. 493.
Focal Infection in Dental Tissues. J. N. C. Moffat, Clarksdale, Miss. —p. 497.
Roentgen-Ray Diagnosis of Colonic Lesions. C. P. Rutledge, Shreveport, La.—p. 502.
Some Difficulties in Diagnosis of Early Pregnancy from Surgeon's Viewpoint. J. A. Crisler, Memphis, Tenn.—p. 507.
*Treatment of Raynaud's Disease by Negative Pressure. R. S. Crichlow, New Orleans.—p. 511.
Relation of Medical Examiners to Life Insurance Companies. J. O. Segura, Jackson, Miss.—p. 515.
*Status of Mercurochrome as Intravenous Medication. M. S. Stringer, Jackson, La.—p. 519.

Clinical Manifestation of Biliary Toxemia. A. L. Levin, New Orleans. —p. 521.
Quinine as Preventive of Malaria. M. A. Barber, Greenwood, Miss. —p 530.
Program for Part Time County Officer. W. H. Frizell, Brookhaven, Miss —p 535.

Rôle of Prostate in Focal Infections.—In Walther's opinion the prostate and seminal vesicles play an important rôle in considering focal infections in the male and merit more serious consideration at the hands of the profession than has been accorded them so far.

Negative Pressure in Treatment of Raynaud's Disease.—Crichlow reports good results from the use of negative pressure in the treatment of a case of Raynaud's disease involving the feet. The amount of air exhausted depends to a large extent on the patient's ability to stand pain. After keeping the air exhausted from one to two minutes, it is necessary to release the tube and let the air come back into the jar; then, renewing the process of exhausting the air from the jar and letting it back for an interval of from fifteen to twenty minutes, depending on the ability of the patient to stand the same. This was repeated twice daily for the first week, then once daily for the next two weeks, then twice a week for the next month, and later once every ten days, keeping this up for at least a year. The results were most gratifying. The condition is entirely under control.

Use of Mercurochrome in Septicemia.—Stringer concludes that mercurochrome-220, used intravenously, is not a panacea in septicemia. Its action is most likely that of an agent to produce a systemic reaction, emphasizing the natural defenses of the body. Though its use is not without danger, its low toxicity recommends its use in extreme cases, and affords a not wholly explained chance of benefit in those cases with a certain margin of "fight" still present.

New York State Journal of Medicine, New York

26: 85-126 (Feb 1) 1926

Prostatic Obstructions in Patients Over 50. D. M. Davis, Rochester. —p 85
*Effect of Producing Aseptic Meningitis on Dementia Praecox. E. S. Barr and R G. Barry, Philadelphia —p. 89.
Chronic Intestinal Infections. Nonulcerative Types. G. R. Satterlee, New York —p 92
Radium. G A. Robinson, New York —p 96
Herald of Men of Death: Influenza. T F. Reilly, New York —p 99.
Management of Syphilis Complicating Pregnancy. A. C Beck, Brooklyn. —p 102.
Diabetes Mellitus; Results of Insulin Treatment. G. M. Parkhurst, Bath. —p 104.

Aseptic Meningitis and Dementia Praecox.—Barr and Barry aver that the introduction of sterile inactivated, normal horse serum, by a series of treatments, into the spinal canal of cases of dementia praecox produces (*a*) a marked physical reaction with high temperature; (*b*) an aseptic meningitis; (*c*) mental improvement of varying degree in a large percentage of cases. Younger patients are more responsive and their improvement is more lasting Certain patients are unsuited: those over 45; those having tuberculosis; those having other systemic diseases, as arteriosclerosis, cardiorenal disease, general adenopathy, persistent thymus, etc. The authors are of the opinion that the reactions observed and mental improvement noted are most probably not due to any specific virtue belonging to horse serum, but so far they have found no other agent or method of treatment which yields the same result.

Ohio State Medical Journal, Columbus

22: 117 184 (Feb) 1926

Physiology of Blood Clotting; Theories of Thrombosis; Determination of Clotting Time T. L. Ramsey, Toledo.—p 117
Appendicitis Complicating Pregnancy. W. D Fullerton, Cleveland —p 124.
Treatment of Corneal Ulcers with Electro Thermophore. F. D Phinney, Cincinnati —p 127
Pre School Age F R Dew, Barnesville.—p 130
Parkinson's Syndrome Following Epidemic Encephalitis W H Pritchard, Columbus —p 131.
Diagnosis and Treatment of Tuberculous Peritonitis H. A McKnight, Springfield —p. 135
Perforated Gastric and Duodenal Ulcers L. V. Zartman, Columbus. —p. 120.

Physical Therapeutics, Baltimore

44: 1 66 (Jan) 1926

Use of Roentgen Ray and Desiccation in Treatment of Infected Tonsils. W. D McFee, Haverhill, Mass —p 1
Thermotherapy in Eye, Ear, Nose and Throat T. S Blakesley, Kansas City, Mo —p 6
Treatment of Gonococcal Infection by Diathermy. E P. Cumberpatch, London —p 19.
Salt Glow, Massage and Spray. V. C Kinney, Wellsville, N. Y.—p 33.
Wet Pack. C. Pope, Louisville, Ky —p. 37.

Rhode Island Medical Journal, Providence

9: 17 32 (Feb) 1926

Ideals and Ethics A H Miller, Providence —p 17.
Treatment of Auricular Fibrillation. S A. Levine, Boston —p. 19.

Surgery, Gynecology and Obstetrics, Chicago

42: 161-172 (Feb) 1926

*Treatment Following Operations for Ulcer of Duodenum and Stomach. G B Eusterman, Rochester, Minn —p 161.
*Fundamental Principles in Surgery of Stomach and Duodenum. D. C. Balfour, Rochester, Minn —p 167.
*Hyperthyroidism in Children R. S Dinsmore, Cleveland —p 172.
Care of Handicapped Goiter Patient. R S Dinsmore, Cleveland —p 177.
*Rehabilitation of Cardiovascular Patient. F. H. Lahey and B. E. Hamilton, Boston —p 179.
*Preparation of Patients for Prostatectomy. H. C Bumpus, Jr, Rochester, Minn —p 182
*Treatment of Surgical Patient Handicapped by Urinary Obstruction. B C Hunt, Rochester, Minn —p 187
Physiologic Principles in Treatment of Benign Hypertrophy of Prostate. W Walters, Rochester, Minn.—p 191
Use of Insulin in Surgery and Obstetrics. F. N G. Starr and G. A. Fletcher, Toronto, Can —p 194
Prevention of Disease W A. Lane, London —p. 196
Experimental Hydronephrosis, Arterial Changes in Progressive Hydronephrosis of Rabbits with Complete Ureteral Obstruction F. Hinman, San Francisco, and D. M Morison, Edinburgh, Scotland —p 209.
Use of Diathermy and Quartz Lamp for Conserving Temperature of Viscera and Promoting Welfare of Patient Before and After Abdominal Operations G W Crile, Cleveland —p 218.
*Muscle and Fascia Suture with Relation to Hernia Repair. A. R. Koontz, Baltimore —p 222
*Necrosis of Corpus Luteum of Pregnancy D. Brannan and M. Cohen, Pittsburgh —p 228
*Corpus Luteum as Source of Follicular Hormone. C. G Johnston and V L Gould, St Louis —p 236
Retroposition of Uterus Analysis of 1,000 Cases J. F. McGrath, New York —p 241
*Comparative Study of Radiation and Surgical Treatment for Fibromyoma of Uterus F A Ford, Rochester, Minn —p 245
*Blood Calcium in Eclampsia S M Feinberg and A F. Lash, Chicago. —p 255
*Cysts of Semilunar Cartilages N. Allison, Boston, and D S. O'Connor, Waterbury, Conn —p 259
Analysis of 1,527 Fractures E D Newell, E. R. Campbell and J. M. Frere, Chattanooga, Tenn —p 263
*Operation for "Dangle Foot" R Morison and W. Mackenzie, Newcastle-on Tyne, Eng —p 270
*Correction of Deformity in Bony Ankylosis of Hip Joint. L C. Abbott and F A Jostes, St Louis —p 274.
*Traction on Sternum in Treatment of Multiple Fractured Ribs T. B. Jones, Rochester, N Y, and E P Richardson, Boston —p. 283.
Observerscope for Proctoscopy. L A Buie, Rochester, Minn —p. 285.

Cooperation Reduces Surgical Morbidity.—The cooperation of internist and surgeon in the preoperative preparation of patients has strikingly reduced the surgical mortality in various types of diseases In Eusterman's opinion a similar pooling of therapeutic resources after operation should reduce surgical morbidity to a minimum. The patient who has been well chosen and skilfully operated on invariably does well without any exact postoperative regimen. The use of proper diet, alkalis, frequent findings, and so forth, immediately after operation, for about six weeks at least, and for a longer period in certain types of cases, rests on sound experimental and clinical ground The better end results in the medical or surgical treatment of peptic ulcer in women than in men are largely due to their superior personal and eating habits and better cooperation in general. The habitual or excessive use of tobacco is harmful to the patient with peptic ulcer.

Surgery of Stomach and Duodenum.—As the result of more intensive study and preoperative preparation of these patients Balfour says there were only four operative deaths among 400 cases: one from bronchopneumonia ten days after a difficult partial gastrectomy for advanced carcinoma involving the pancreas, the resection having been ill advisedly undertaken as a palliative measure to relieve obstruction; one from acute pancreatitis following partial gastrectomy for multiple gastrojejunal ulcers associated with subacute pancreatitis; one from the extension of a retroperitoneal infection into the general peritoneal cavity ten days after excision of a large bleeding duodenal ulcer of the posterior wall and followed by gastro-enterostomy in a patient with marked secondary anemia; and one following jejunostomy for a large subacute perforating ulcer at the cardia in a patient whose condition was so bad that even this operation was questionably advisable.

Hyperthyroidism in Children.—Dinsmore feels that hyperthyroidism in children is more common than has been supposed. The etiology is unknown. A small percentage of cases follow acute infections, but ordinarily there is no tangible factor to which the disease can be attributed. The onset is abrupt and the clinical course rapid. Induced hyperthyroidism may follow the prophylactic use of iodine in a very small percentage of cases but this can usually be controlled by the discontinuance of the iodine. These children are extremely susceptible to all kinds of operative procedures and must be handled with extreme care. In the presence of other foci of infection, the goiter should be removed first, the other foci of infection being removed after the patient has recovered from the thyroidectomy.

Rehabilitation of Cardiovascular Patient. — Lahey and Hamilton direct attention to the occasionally indicated method with which they have succeeded in rehabilitating patients with cardiovascular disease by indirect surgical measures. This consists in the removal of surgical burdens. The order of the greatest degree of accomplishment is removal of the toxic goiter, removal of large pelvic tumors, and removal of troublesome gallbladders. If there is cooperation between cardiologist, anesthetist and surgeon, not only will the mortality in this seemingly hopeless group be surprisingly low, but the degree of restored ability in many cardiovascular cases will be strikingly high.

Preparation for Prostatectomy.—To undertake cystostomy before the urea content of the blood is below 100 mg. for each hundred cubic centimeters, Bumpus says, is to diminish materially the possibility of the patient's recovery, as so reduced a renal function will frequently not bear the added load imposed by the prostatectomy.

Surgical Preparation in Cases of Urinary Obstruction.—The successful management of these cases, Hunt says, demands drainage of the bladder preliminary to prostatectomy for at least ten days, often for longer periods. This has been accomplished by permanent urethral catheter, followed by the one stage visualized suprapubic prostatectomy in 80 per cent of the cases. The adoption of this principle of management in all cases has resulted in the removal of the prostate gland in 204 cases at the Mayo Clinic with but three deaths, in 172 consecutive cases of which the one stage operation was employed with but one death.

Muscle and Fascia Suture in Herniotomy.—These experiments done by Koontz show that muscle unites with fascia by the union of the fascia with the fibrous components of the muscle, and that the strength of this union depends on intimacy of contact between the fascia and the muscle. It is necessary, therefore, that both muscle and fascia be stripped of areolar tissue before they are sutured together. Still better results are obtained if raw surface of muscle is sutured to fascia.

Necrosis of Corpus Luteum.—Two cases are cited by Brannan and Cohen. They are said to be the only cases on record. In the first case the subject was a primipara who presented the clinical features of pernicious vomiting in the third month of pregnancy. The illness was acute and progressive, terminating in death forty-four days after the onset. Aside from marked pulmonary edema, the postmortem examination, so far as the gross findings were concerned, revealed little of significance. Microscopically, the extensive coagulative necrosis of the corpus luteum constituted by far the most important lesion. In the second case, the clinical picture was also that of pernicious vomiting in early pregnancy. This patient was a multipara in the third month of gestation. The duration of the illness was less than a month. The presence of jaundice and the high nonprotein nitrogen of the blood were unusual features worthy of note. With the exception of edema of the lungs and adenomatous goiter, the necropsy findings were not remarkable. The important lesions microscopically were in the corpus luteum, in the liver and in the decidua. The massive necrosis of the corpus luteum was by far the most marked lesion found.

Corpus Luteum Hormone.—Johnston and Gould are inclined to believe that the corpus luteum does not secrete the hormone which produces hyperplasia of the uterus and vagina.

Treatment of Fibromyoma of Uterus.—Reviewing a large series of cases of fibromyoma of the uterus treated by operation and by radiotherapy Ford says a relatively high percentage of the latter group has been found to require further treatment, either repeated radiation (18 per cent) or operation (13.7 per cent) as compared with 4 per cent of the surgical group who received further treatment. It is true, however, that more recent cases, particularly after roentgen-ray treatment, are showing definitely better results through greater experience in the dosage required. A study of individual cases shows so many thoroughly satisfactory results with radiotherapy that the discrepancy in the total results, Ford says, must apparently be attributed to injudicious selection of cases, or to inadequate dosage. Great care must be exercised to rule out malignant disease at the time of radiation. Curettage should precede treatment in any case with suspicious symptoms.

Blood Calcium in Eclampsia.—A study made by Feinberg and Lash of the blood calcium level in eclamptics has shown that on theoretical grounds a decrease in the blood calcium may be expected in eclampsia, although there is no appreciable relation between the blood calcium and eclampsia.

Cysts of Semilunar Cartilage.—Allison and O'Connor report two cases of cyst of the external semilunar cartilage and one case of cyst of the internal semilunar cartilage. It is their belief that these cysts represent the end-result of a degenerative process caused by an interference with the blood supply of the cartilage in this region, the exciting cause of which is a nonlacerating injury. The cysts were located in the midportion of the semilunar cartilage on the external border. Spontaneous recovery is unknown and recurrences have taken place in those cases in which the entire cartilage was not removed.

Operation for "Dangle Foot."—Morison and Mackenzie fix the ankle by making osseous ligaments between the tibia and fibula above and the astragalus and os calcis below. Bone grafts are taken from the crest of the tibia. Details of procedure are given.

Molding Callus to Correct Hip Joint Deformity.—The method employed by Abbott and Jostes consists in a gradual molding of callus. A subtrochanteric osteotomy of the femur is done and the limb fixed in the position of deformity by applying a Thomas splint with traction. When callus has surrounded the bone ends, gradual correction of the deformity is obtained by changing the position of the limb. For example, in abduction deformity, the leg is gradually adducted until it becomes nearly parallel to its fellow. With each change in position a bending of the callus occurs. When the final position of correction is secured there is produced a definite angulation at the site of osteotomy. Correction of the deformity is obtained, therefore, by creating a malunited fracture of the femur but without any displacement of the fragments. The desired position for function is maintained until consolidation of the callus has taken place.

Traction on Sternum in Rib Fracture.—In the case reported by Jones and Richardson, under procaine anesthesia two incisions, about 1 cm. long, were made just lateral to and at right angles to the border of the sternum at the level of the third interspace, and were carried down until the edges of the sternum were exposed, great care being taken to avoid puncture of the pleura. An ordinary "bullet forceps," such as is used to grasp the cervix in gynecologic cases, was used to grasp the sternum, a hook being placed into the lateral aspect of the sternum on each side and the forceps then being locked. It was found that a moderate degree of traction served to keep the sternum elevated during inspiration. The optimum degree was determined by hand and maintained by the usual method of weights and pulleys, attached to a rainbow frame.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

4: 449-554 (Dec.) 1925

Work of Sir Charles Bell in Relation to Modern Neurology. H. C. Thompson.—p. 31.
Morphology of Gasserian Ganglion. C. H. Frazier and E. Whitehead.—p. 458.
*Peculiar Reflex Phenomenon. P. M. van W. Palthe.—p. 476.
Mechanisms of Speech and Deglutition in Progressive Bulbar Palsy. M. Critchley and C. S. Kubik.—p. 492.
*Varicella Myelitis. K. H. Krabbe.—p. 535.

Trigeminal Reflex Phenomenon.—By means of a certain form of stimulation applied to a part of the skin and mucous membrane supplied by the second branch of the trigeminal nerve, a reflex can be elicited which consists in (*a*) arrest of breathing in any phase; (*b*) movement of the floor of the mouth and of the root of the tongue; (*c*) movement of the larynx, and (*d*) increase of pressure in the nasal cavities. This reflex resembles in many respects the swallowing reflex. Palthe says that biologically this reflex may be considered as a protection against the entrance of harmful substances into the larynx and pharynx. It acts also during unconsciousness. The unpleasantness which arises when a strong current of air strikes the face is explained by this phenomenon. This "reflex swallow" may have localizational value in distinguishing between disorders in the trigeminal sensibility of peripheral origin and those due to more centrally situated lesions, above the linking center of these cerebral nerves.

Chickenpox Myelitis.—Krabbe reports a case of myelitis caused by chickenpox and probably produced by the varicella virus itself. The favorable course of the disease agrees with the good prognosis of chickenpox.

British Journal of Surgery, Bristol

13: 405-600 (Jan.) 1926

XIX. Thomas's Hip Splint. D'Arcy Power.—p. 405.
*Traumatic Neuritis of Ulnar Nerve in Postcondylar Groove. H. Platt.—p. 409.
*Operative Repair of Cruciate Ligaments in Severe Trauma of Knee. A. H. Edwards.—p. 432.
Tuberculosis of Glands in Ileocecal Angle: Cause of Pain in Right Iliac Fossa.—p. 439.
Differential Diagnosis of Calcified Mesenteric Glands by Radiologic Examination. L. A. Rowden.—p. 451.
*Internal Urethrotomy; End Results G. P. B. Huddy.—p. 458.
Applied Anatomy and Physiology of Thyroid Apparatus. G. S. Williamson.—p. 466.
Bone-Grafting of Mandible; Seven Cases. W. Billington and H. Round.—p. 497.
Complete Exposure of Radius. A. K. Henry.—p. 506.
*Desquamative and Dysgenetic Epithelial Hyperplasias in Breast. G. L. Cheatle.—p. 509.
Further Results of Nerve Anastomosis. C. Ballance, L. Colledge and L. Bailey.—p. 533.
Ileus Following Fractured Ribs. F. G. Ralphs.—p. 559.
Operation for Covering Guillotine Amputation Stump. W. B. Gabriel.—p. 562.
*Unusual Complication in Operating on Large Tumors of Neck. H. Hallilay.—p. 566.
Suppurating Thyroglossal Cyst. W. E. M. Wardill.—p. 567.
Mucous Cyst of Tongue; Case. E. I. Lloyd.—p. 568.
Cystic Pneumatosis of Small Intestine. S. H. Pugh.—p. 572.
Case of Imperforate Anus with Megalocolon and Terminal Peritonitis. R. W. Jones.—p. 575.
Pulsating Goiter Accompanied by Recurrent Dislocation of Eyeballs. H. Burrows.—p. 578.
Thyroid Gland Tissue in Dermoid Cyst of Ovary. E. H. Shaw.—p. 580.
Traumatic Rupture of Hepatic Duct. S. A. Wallace and A. Spiro.—p. 582.
Hernia Through Foramen of Winslow; Secondary Rupture Through Gastro-Hepatic Omentum. E. R. Carling and A. T. Smith.—p. 585.
Acute Ascending Parenchymatous Enteritis Causing Paralytic Ileus. Z. Cope.—p. 587.

Treatment of Traumatic Neuritis of Ulnar Nerve.—In Platt's opinion there is one simple and effective operation which is universally applicable in all cases of traumatic neuritis of the ulnar nerve in the postcondylar groove, viz., anterior displacement of the nerve trunk.

Repair of Cruciate Ligaments.—Edwards uses the tendons of the gracilis and semitendinosus muscles to make new cruciate ligaments. These tendons are passed through a drill hole in the internal femoral condyle and then through drill holes in the head of the tibia. The canals lead from the upper surface of the tibia forward and downward so that when the tendons are passed through them they are sutured on to either side of the tibial attachment of the patellar ligament.

Internal Urethrotomy.—Of 107 patients on whom this operation was performed two died. In the first of these, carcinoma of the bladder, vesical calculus, and purulent nephritis were associated with the urethral stricture. In the second case irregular pyrexia ensued, and one rigor followed the dilation. Death occurred on the twelfth day. At necropsy the bladder was found dilated, hypertrophied and inflamed: the kidneys were hydronephrotic and showed a condition of pyelonephritis. Huddy urges that the operation should be preceded by suprapubic drainage of the bladder if there is evidence of renal insufficiency or marked urinary infection. A periurethral abscess should first be drained, and internal urethrotomy performed when the infection has subsided. Urinary extravasation is best treated by free incision into the infected parts, combined with perineal drainage of the bladder, internal urethrotomy being performed at a subsequent operation. The dangers of hemorrhage have been exaggerated. The results are extremely satisfactory, and the operation should be carried out in any case in which dilation is difficult or unsatisfactory. An indwelling catheter has value, and should, unless any complication arises, remain in position four days. Postoperative dilation is essential.

Epithelial Hyperplasias in Breast.—There appears to Cheatle to be a definite sequence of events in epithelial changes in the breast that end in carcinoma. The different epithelial changes have a common site of origin, namely, the acini and terminal ducts. The chain of events may be interrupted at any point, due either to intrinsic biologic changes in the cells or to extrinsic factors such as variation in connection with the exciting cause. The interruption may result in the process remaining latent or in its subsequent degeneration and disappearance. The sequence of events begins as what Cheatle terms a desquamative epithelial hyperplasia, and passes on to an epithelial hyperplasia which is not desquamative and is termed dysgenetic epithelial hyperplasia. The events described as occurring in the breast are identical in time and sequence with those occurring in the skin of man and mice after the application of tar.

Tumor of Neck.—The remarkable feature of Hallilay's case was the way in which the growth had separated the constituents of the carotid sheath, the right vagus being stretched over the front of the tumor, while the right carotid and jugular were displaced to the left of the middle line.

British Medical Journal, London

1: 225-268 (Feb. 6) 1926

Twenty-Five Years' Progress in Abdominal Surgery. A. H. Burgess.—p. 225.
Hodgkin's Disease in Man and Animals. H. Rolleston.—p. 230.
*Infantile Paralysis in Australia and New Zealand. J. M. Gill.—p. 232.
*Action of Pituitary Extract Administered by Alimentary Canal. H. H. Knaus.—p. 234.
*Appendicostomy for Relief of Thirst and Inanition After Abdominal Operations. H. de Lisle Crawford.—p. 236.
Technic of Adenotonsillectomy. J. C. G. Macnab.—p. 236.
Inguinal Hernia Containing Rudimentary Horn of Bicornate Uterus. T. B. Mouat.—p. 237.
Vaginal Calculus. E. F. Murray.—p. 237.
Actinomycosis of Appendix. C. F. J. Baron.—p. 237.
*Surgery of Malignant Disease of Pharynx. W. Trotter.—p. 269.
Development of Vaginal Operations for Genital Prolapse. W. E. Fothergill.—p. 273.
*Operative Treatment of Hernia in Infants and Young Children. A. Fullerton.—p. 274.
Constipation in Infancy and Childhood. D. Paterson.—p. 277.
Historical Survey of Peroral Endoscopy. I. Moore.—p. 278.
*Etiology of Diverticula of Intestine. R. Davies-Colley.—p. 282.
Fish as Source of Certain Coccidia Recently Described as Intestinal Parasites of Man. J. G. Thompson and A. Robertson.—p. 282.

Relation of Obesity to Diabetes Mellitus, and So-Called Lipogenic Diabetes. F. P. Weber.—p. 284.
Hyperglycemia as Cause of Pruritus Vulvae. E. McPherson.—p. 284.
Congenital Hydronephrosis in Newly Born Infant. R. H. Hunter. —p. 284.
Pulmonary Embolism Following Operation for Cataract. T. H. Cresswell.—p. 284.

Infantile Paralysis in Australia and New Zealand.—Gill avers that there have been many epidemics of this disease in New Zealand and Australia. The first occurred in Sydney in 1903, during November and December, when about forty cases were treated at the Children's Hospital. From Sydney it spread during the course of the following year over the greater part of New South Wales and Queensland. From 1903 to 1909 there was an interval, but from 1909 to 1916 there were annual epidemics, always reaching their height in the second half of the summer and in the autumn. There was again an interval till 1921. There were mild epidemics in Sydney in 1921, 1923 and 1924, but none in 1925. In 1923 there were forty cases in the hospital. In 1924 there were forty-five cases in the hospital. The last two epidemics were very similar. They both reached their maximum later than usual. In 1923 most cases were admitted in May, a cool month; in 1924, in March. Both epidemics were mild, with a high recovery and a low mortality rate. A very extensive epidemic visited New Zealand, but not Australia, in 1925.

Action of Pituitary Extract Administered by Alimentary Canal.—Knaus states that when pituitary extract is administered at any part of the alimentary canal—mouth, stomach, small intestine, rectum—pressor action is never observed. When pituitary extract is introduced into the stomach or small intestine, it exerts no influence on uterine muscle. When the extract is administered by the mouth, after a latent period of about eight minutes, it exerts a marked action on the uterus, increasing both the tone and automatic movements. The oxytocic substance is therefore absorbed. The rectum absorbs the oxytocic substance also, although absorption is probably not so complete as with administration by mouth.

Appendicostomy for Relief of Thirst.—Crawford describes a method by which appendicostomy may be performed in a few seconds at the close of any ordinary abdominal operation by means of a stab incision. Before the patient leaves the table, 1 pint of saline and glucose solution is run in through a funnel, and this is repeated hour after hour as long as may be necessary. The chief points about this method are as follows: There is none of the intolerable thirst so common after severe abdominal operations. The pulse slows quickly, and the blood pressure rises. There is very little restlessness. The skin is moist; the mouth and tongue are clear and moist. The kidneys act well. Peristalsis is markedly stimulated. Incidentally, the appendix is eliminated; with regard to the frequent presence of chronic disease in the appendix this is important. The patient is fed without disturbance, whether awake or sleeping. There is no futile coaxing of the rectum to fulfil the functions of the colon, and the stomach is allowed to rest.

Surgery of Pharyngeal Cancer.—There is one method of general utility in the operative treatment of carcinoma of the laryngopharynx, says Trotter. This is the operation of lateral (transthyroid) pharyngotomy, which is the foundation on which all the different procedures, from the simplest to the most elaborate, must be built up. It is primarily a method of access, and depends on the anatomic fact that the laryngopharynx lies within the laryngeal skeleton. If the great cornu of the hyoid bone and the ala of the thyroid cartilage are removed, the wall of this part of the pharynx is disclosed unopened, and through it the situation and extent of a growth can be determined by palpation with some precision. It can now be decided if a radical procedure is possible, and what it should be.

Herniotomy in Infants.—Statistics given by Fullerton are said to prove that operations for hernia in infants and young children are as safely conducted in the outpatient department as in the wards; in fact, from the figures quoted, the balance, if anything, is slightly in favor of the outpatient department. Of 184 children operated on (209 operations), seventy-seven were less than 3 months old and forty-eight were between 3 and 12 months of age. The advantages gained by operating in the outpatient department are: (1) The child, if being nursed by its mother, does not suffer the inconvenience and risk of being weaned. (2) The range of usefulness of the hospital is enormously increased, the beds which would otherwise be occupied by cases of hernia being available for other patients.

Etiology of Intestinal Diverticula.—Three explanations of the occurrence of this condition are given by Davies-Colley: (1) The subperitoneal fat weakens the intestinal wall by inducing a simple atrophy of the muscle from pressure. (2) The fat invades and separates the muscle fibers and so produces weak spots. (3) The fat becomes infected, probably by the intestinal contents, and the muscle in contact with it is weakened by an inflammatory process. This last alternative is believed to be the true explanation of most of the diverticula occurring in the colon, though some in the colon and perhaps most of those in the small intestine, in which infection of the fat is less likely to happen, may be ascribed to one or other of the noninflammatory causes suggested.

Edinburgh Medical Journal

33: 49-96 (Feb.) 1926

*Scarlatinal Nephritis. A. Joe and A. B. Williamson.—p. 49.
*Renal Function in Scarlet Fever. G. H. Percival and C. P. Stewart. —p. 53.
*Morbid Anatomy and Histology of Pellagra. W. Susman.—p. 58.
*Use of Massive Doses of Digitalis. A. R. Gilchrist.—p. 65.

Scarlatinal Nephritis.—During the two year period 1921-1922, the percentage of deaths from scarlatinal nephritis in the Edinburgh City Hospital was 6.9; in the period 1923-1924 it was 12. The incidence of the complication also shows a definite increase. It was 1.4 in 1919 and 4.92 in 1924. Joe and Williamson studied nineteen cases. The complication appeared in all cases on the eighteenth day. The state of affairs as revealed by urine examination never stood in any relationship to the severity of the patient's condition. In one case a necropsy was permitted. It disclosed as the chief defect in the kidneys a definite acute degenerative change in the secreting tubules, not, as heretofore stated, in the glomerulus. Fatalities occurred in this series of cases when least expected.

Renal Function in Scarlet Fever.—Percival and Stewart are convinced that no warning of an impending nephritis can be obtained from examination of the blood urea content. They have found an early and a later rise in blood urea to occur. The fall is rapid in those cases which did not develop nephritis, and usually much slower in those which did. In four cases out of six, clinical signs of nephritis—diminished output of urine, albuminuria, hematuria, casts and slight edema, appeared while the blood urea was still low, though in every case there was a subsequent rapid rise.

Morbid Anatomy of Pellagra.—The morbid anatomy and histology of a case of pronounced pellagra was thoroughly examined by Susman. The oldest lesion was in the thyroid, and proliferation of the vesicular epithelium, increased vascularity and intracellular granularity and a marked fibrosis indicate a disease of the thyroid. Metabolic disturbances which followed, and the damage incurred by the causal agent are responsible for the liver damage and consequent fibrosis. This is a slow process. The toxic material is excreted by the kidney tubules, and there causes a peritubular degeneration, and later, fibrosis. The lesions in the other organs are secondary to this, the main process.

Use of Massive Doses of Digitalis.—Gilchrist had employed Eggleston's method of rapid digitalization on over fifty occasions in cases of auricular fibrillation. As a general rule, slowing of ventricular rate occurred within six hours, and maximum effects were reached in from fifteen to twenty-four hours, and often persisted for several days. In cases of fibrillation secondary to rheumatic infection, with the patient acutely ill, with a marked venous congestion and high ventricular rates, the results were often dramatic. In cases of fibrillation secondary to chronic myocardial degeneration and accompanied by advanced arteriosclerotic and renal changes, the method is not always of such value as in the former group, but may be used if the symptoms demand it. In urgent cases the method is less dangerous than the intravenous administration of strophanthin. The response to massive doses is of some value in forming a prognosis. From the practitioner's point of view, Gilchrist says Fraser's method or Pardee's may be employed. It is easy to calculate the dose on the basis of 15 minims of the tincture for each 14 pounds of body weight, and give 20 minims six hourly thereafter until maximum therapeutic effects are obtained. Toxic effects are rare and can be largely avoided by keeping the patient under fairly frequent observation.

Japan Medical World, Tokyo

6: 1-16 (Jan. 15) 1926

Biochemical Racial-Index of Japanese in Hokuriku District. T. Furuhata and T. Kishi.—p. 1.
Auto and Iso-Hemoagglutinations in Rabbits. M. Matsuda.—p. 4.
Beriberi in Japan. R. Takano.—p. 8.

Journal of Tropical Medicine and Hygiene, London

29: 17-37 (Jan. 15) 1926

Virus Diseases of Bacteria, Plants and Vertebrates. H. P. Bayon.—p. 17.

Lancet, London

1: 269-322 (Feb. 6) 1926

*Clinical Aspects of Simple Goiter. J. Berry.—p. 269.
*Fat Soluble Vitamins. J. C. Drummond.—p. 272.
*Tubercle Bacilli in Feces. K. A. H. Sykes.—p. 273.
Treatment of Recent "Pott's Fracture." C. M. Greenslade.—p. 276.
Case of Hernia of Stomach and Transverse Colon. E. C. Bridges and J. Fawcett.—p. 278.
New Method of Physical Examination (Ectoscopy). E. Weisz.—p. 280.
Medicinal Induction of Labor. K. V. Bailey.—p. 283.
Case of Coronary Embolism. C. H. Miller.—p. 284.
Case of Pneumococcal Peritonitis. P. O. Ellison, H. L. Tidy and L. G. Williams.—p. 284.
Hyperesthesia in Disease of Gallbladder. Z. Cope.—p. 285.

Simple Endemic Goiter.—Simple endemic goiter, in Berry's opinion, is not hypertrophy, but is essentially a degeneration of the thyroid gland. The gland is not overactive, but underactive. Whatever may be the connection between iodine and the thyroid gland, there is no reason for believing that a lack of iodine has anything to do with the causation of endemic goiter, as found in the human subject. It is quite certain that, at least in the vast majority of cases, the disease is produced through the agency of drinking water. There is much evidence that practically all waters which produce goiter contain frequently, although not necessarily at all times and seasons, mineral matter in suspension, usually in an extremely fine state of subdivision. There is also a good deal of evidence that this mineral matter is generally of a calcareous nature. Organic matter in suspension, although capable, apparently, of causing a hyperplasia of the gland, at least in animals, has not been proved the cause of endemic goiter as seen in man.

Fat Soluble Vitamins.—While Drummond cannot give any clear idea, as yet, of the chemical nature of vitamin A, the very highly active fractions he has obtained consist largely of unsaturated higher alcohols, containing in their molecules only the elements carbon, hydrogen and oxygen. The possibility is suggested that the vitamin is actually one of these alcohols. At any rate, one must abandon all ideas of the labile, vitamin being a liable, ill defined compound, as one time imagined, when it is so readily demonstrated that it can survive such drastic chemical treatment as saponification with boiling alkalis and distillation at temperatures over 200 C.

Tubercle Bacilli in Feces.—Two hundred and twenty-five children admitted to Sykes' care either for observation for suspected pulmonary tuberculosis, or with a diagnosis definitely implicating the lung, have had their feces examined for tubercle bacilli as a matter of routine. In addition, and as controls, a number of patients with tuberculous peritonitis, cervical adenitis and children not suffering from tuberculous disease have also been investigated. Evidence is submitted to show that there is little doubt that the acid-fast bacilli found in the feces of children suffering from pulmonary tuberculosis are tubercle bacilli. Further, it would appear that in the majority of cases in which bacilli are thus found, they are derived from sputum which has been swallowed. The possibility of such bacilli being derived from tuberculous ulceration of the intestine has been considered, and though the evidence is small, it is such as to suggest that this is not frequently the source. Tubercle bacilli, if present in the sputum, can be demonstrated in the feces in 100 per cent of cases. In no case in which the sputum on repeated examination was negative for tubercle bacilli were these bacilli found in the feces. In children suffering from pulmonary tuberculosis, tubercle bacilli can frequently be found in the feces when no sputum can be obtained for examination.

Medical Journal of Australia, Sydney

1: 1-28 (Jan. 2) 1926

Some Medical Aspects of Workers' Compensation Insurance. N. C. K. Lane.—p. 1.
Hydatid Cysts of Lung: Surgical Treatment. W. J. S. McKay.—p. 7.
*Unusual Case of General Paresis. C. Henry.—p. 13.

General Paresis of Long Duration.—Henry reports a case of general paralysis of the insane of over eleven years' duration without remission. The man, aged 35, had had syphilis. Ten months before admission he first noticed the symptoms, which consisted of hearing women's voices coming from the back of his head—which kept him awake at night. He became depressed and apathetic; he thought spirits went inside him and then ran away and laughed and mocked him. He thought that a woman brought him poison in a spoon. His speech was thick and slurred and his tongue was tremulous; there was syllable stumbling and elision of words. Reflexes were normal. Death occurred suddenly while the patient was lying in bed. At the postmortem examination, the cerebrospinal fluid was found much increased in quantity; the brain was very large; there was definite chronic leptomeningitis and on the floor of the fourth ventricle there was hypergliosis. The aorta descendens was the site of an aneurysm the size of the clenched fist. This had ruptured into the right pleural cavity, which contained the whole blood content of the body.

1: 55-90 (Jan. 16) 1926

Report of Royal Commission on Health.—p. 55.

1: 91-120 (Jan. 23) 1926

Communicable Diseases Common to Man and Animals. M. Henry.—p. 91.
Id. Tetanus, Botulism, Anthrax. H. R. Seddon.—p. 93.
*Incidence of Echinococcus Granulosus (Batsch) or Hydatid Disease in New South Wales. I. C. Ross.—p. 97.

Incidence of Hydatid Disease in New South Wales.—In one district reported on by Ross, about one third of the cattle, sheep and dogs examined were infested with echinococcus. Two hospitals in this district reported that in the last quinquennial period, 1920-1924, the ratio of human infestation was about 1 : 137. In another district, 50 per cent of cattle, 60 per cent of sheep and 10 per cent of dogs were infested. The ratio of human infestation was 1 : 309. Ross says that echinococcus incidence is on the increase in these districts.

Medical Journal of South Africa, Johannesburg

21: 125-150 (Dec.) 1925

Case of Facial (Jaw) Deformity. C. F. Beyers and T. B. Berry.—p. 127.
Case of Double Strangulated Hernia. W. Welchman.—p. 131.
Isolation of B. Typhosus in Case of Periostitis Twenty-Four Years After Attack of Enteric Fever. R. N. Johnson.—p. 132.

National Medical Journal of China, Shanghai

11: 399-498 (Dec.) 1925

*Scarlet Fever Problem in Far East. Lin Chia Swee and H. M. Jettmar.—p. 399.
Public Health Aspects of Narcotic Problem. L. T. Wu.—p. 413.
Diagnosis and Treatment of Cholera. C. V. Yui.—p. 426.
Cholera Cases Treated in Municipal Isolation Hospital for Chinese, Shanghai, 1925. R. N. McKinsey and F. D. Zau.—p. 434.
Study of Parasitic Amebas by Experimental Cross Infection of Laboratory Animals. S. F. Chiang.—p. 440.

Scarlet Fever in Far East.—Lin and Jetmar found *Strepococcus haemolyticus* in every one of eighteen cases of scarlet fever investigated. Fifteen showed the organism in practically pure culture. The incidence of scarlatina in northern China is high, both morbidity and mortality showing a higher percentage than in countries of the same latitude in Europe and America. Out of 1,275 Dick tests on the Chinese population in Harbin, those tested ranging in age from 1 to over 30 years, positive reactions were obtained in 47.7 per cent.

South African Medical Record, Cape Town

24: 1-24 (Jan. 9) 1926

Criminal Responsibility in Relation to Mental Disease. J. T. Dunston and R. F. A Hoernle.—p. 2.
Infections of Kidney. A. Radford.—p. 10.
*Tannins as Intestinal Astringents. J. W. C. Gunn.—p. 11.
*Mercurochrome, Intravenously, in Treatment of Chronic Septic Endocarditis. A. W. Falconer.—p. 14.

24: 25-46 (Jan. 23) 1926

Roentgen-Ray Therapy. F. W. Weber.—p. 27.
Injuries and Accidents of Childbirth. H. E. Allanson.—p. 30.
Action of Vinca (Periwinkle) on Blood Sugar of Rabbits. D. Epstein.—p. 35.
Two Cases of *Partial Gastrectomy.* R. L. Daly.—*p.* 38.
Case of Gastrectomy. J. J. Levin.—p. 39.

Tannins as Intestinal Astringents.—The behavior of tannic acid in the intestine is discussed by Gunn and certain clinical observations are quoted. In mild cases of diarrhea, tannic acid would seem unnecessary. In severe cases, especially when the large intestine is affected, it is useless.

Mercurochrome in Treatment of Chronic Septic Endocarditis.—Falconer reports three cases of subacute malignant endocarditis in which mercurochrome-220 soluble was administered. In two of the cases, mercurochrome appeared to produce a definite temporary improvement, as evidenced by a definite effect on the pyrexia, diminution in the size of the spleen, disappearance of the Osler's nodules, and an improvement in general appearance and feelings of the patient; but in neither case did it avert the fatal issue, or materially prolong life. In both cases it produced considerable reaction with severe intestinal irritation and high pyrexia.

Tohoku Jour. of Exper. Medicine, Sendai, Japan

6: 395-643 (Dec. 28) 1925

*Precipitins of Hemoglobin. T. Ishikawa and K. Sakurabayashi.—p. 395.
Meningococcus. I. Variability. S. Kondo.—p. 399.
II. Agglutination Types. S. Kondo.—p. 415.
III. Relation of Agglutination and Sugar Fermentation. S. Kondo.—p. 424.
Relationship Between Proteins of Various Organs. K. Sakurabayashi.—p. 427.
*Effect of Nicotine on Rate of Epinephrine Output. T. Sugawara.—p. 430.
Liver Function Tests. I. Widal's Hemoclastic Test. T. Oka.—p. 459.
Id. II. Bile Pigment. T. Oka.—p. 489.
Basal Metabolism and Minute Volume. II. Vegetative Nervous System. T. Odaira.—p. 523.
Id. III. Thermal Puncture and Effect of Antipyretics, Hormones and Vegetative Nerve Poisons. T. Odaira.—p. 534.
Thermostabile Bactericides of Blood Serum. Y. Ikegami.—p. 565.
*Urea-Nitrogen Concentration of Blood. I. K. Tashiro.—p. 601.
*Id. II. Effect of Caffeine on Blood Urea-Nitrogen Concentration. K. Tashiro.—p. 630.

Precipitins of Hemoglobin.—Ishikawa's and Sakurabayashi's investigations are interpreted as showing that the liver and kidney are biologically related; hence, they contain similar antigen.

Effect of Nicotine on Epinephrine Output.—Sugawara's observations show that nicotine, intravenously injected (from 0.025 to 0.5 mg. per kilogram of body weight), called forth, in the first place, a remarkable, but very briefly continued, augmentation of the epinephrin output from the suprarenals of cats. The augmentation began very soon after the injection and continued, as a rule, over about one minute and not longer than two minutes. It was then replaced by the depressant stage, which lasted many minutes. At the time of maximum depression, no epinephrine could be detected in some cases. The epinephrine output of cats whose splanchnic nerves were divided showed also the same tendency against nicotine. Nicotine acts on the suprarenal medulla itself.

Urea Nitrogen Concentration of Blood.—When a normal rabbit is bound, its blood urea-nitrogen concentration increases. After about thirty minutes' fixation, the blood urea-nitrogen content commences to increase during the binding, but in most cases it reaches the maximum in from thirty minutes to an hour after the release, thence making a gradual fall, but not reaching its original value until after two or three hours. A long duration of binding brings about a gradual increase of the blood urea-nitrogen concentration, which is often to be seen doubled after from three to five hours. Tashiro terms this phenomenon "fixation-hypercarbamidemia." This hypercarbamidemia appears lessened in animals previously vagotomized, and if the vagi are cut in the course of binding, the increase of the blood urea-nitrogen concentration is stopped. From these facts it can be concluded that "fixation-hypercarbamidemia" is attributed to the central stimulation of the vagus.

Effect of Caffeine on Blood Urea Nitrogen Concentration.—Tashiro asserts that a small dose of caffeine (0.05 Gm.) increases the blood urea-nitrogen concentration in a rabbit. The increase of the blood urea-nitrogen content caused by caffeine is not only arrested, but rather turns to decrease, by paraldehyde. The blood urea-nitrogen content is not augmented by caffeine in atropinized or vagotomized rabbits; it is rather lessened. Caffeine-hypercarbamidemia is caused by the stimulation of the vagus centers. A large dosage of caffeine gives rise to the decrease of the blood urea-nitrogen concentration.

Tubercle, London

7: 209-264 (Feb.) 1926

Tuberculosis: Retrospect. A. Adams.—p. 209.
Bacterial Counts in Grade A (Tuberculin Tested) Milk. S. R. Gloyne.—p. 213.
*Experimental Immunization Against Tuberculosis in Guinea-Pig by Use of "Oleo-Vaccine." W. J. Tulloch.—p. 218.
Workshops for Tuberculous Men and Women. J. A. Struthers. C. W. Mutt.—p. 221.
Artificial Pneumothorax Apparatus. R. J. Duthie.—p. 224.
Intestinal Tuberculosis. L. Brown and H. L. Sampson.—p. 228.
Metallic Sound in Thorax. H. M. Kinghorn.—p. 235.

Experimental Investigation Against Tuberculosis.—Investigations dealing with the influence of oils on *Bacillus tuberculosis* are reported by Tulloch. The most important finding is: that exposure of dry living tubercle bacilli to olive oil having an acid value of 0.75 per cent—reckoned as oleic acid—for four days at 37 C. caused death of the bacilli. At least as much bacillary substance as 1.5 mg. (wet weight) per cubic centimeter of oil could be thus treated with the assurance that the product so obtained was noninfective for guinea-pigs. Experiments with guinea-pigs showed that bacilli so treated possess immunizing properties. Five guinea-pigs having previously been immunized with this oleovaccine were resistant to infection with dried tubercle bacilli.

Bulletins de la Société Médicale des Hôpitaux, Paris

50: 123-158 (Jan. 29) 1926

*Phrenicotomy. H. Dufour.—p. 123.
Special Form of Scoliosis. M. Mayer and C. Testu.—p. 124.
Radiography of Tuberculous Pelviperitonitis. Sicard et al.—p. 127.
Insufficiency of the Right Ventricle of the Heart. Moussoir.—p. 129.
*Hemorrhagic Purpura in Myeloid Leukemia. Chauffard et al.—p. 132.
Paroxysmal Form of Adams-Stokes Syndrome. E. Donzelot.—p. 137.
*The Fixation Abscess. J. Comby.—p. 144 and p. 159.
*Histology of Raynaud's Disease. Grenet and Isaac-Georges.—p. 151.
*Amebiasis. N. Fiessinger and G. Parturier.—p. 153.

Phrenicotomy.—Dufour reports two cases of phrenicotomy. One patient, aged 33, had recurring bronchitis and dilatations of the bronchi, at the base of the right lung. Adhesions contraindicated pneumothorax. The other patient, aged 53, was affected with partial pyopneumothorax just above the right diaphragm. No improvement was noted in either case during the months to date since the operation.

Hemorrhagic Purpura in Myeloid Leukemia.—Chauffard, Clément and Jonesco report a case of hemorrhagic purpura in a patient, aged 51, presenting myeloid leukemia and splenomegaly for two and a half years. The disease had developed in three successive attacks, each having been checked by application of roentgen rays to the spleen. The hemorrhagic purpura, complicating the leukemia, caused death in about three weeks. They emphasize that the pathogenesis of hemorrhagic syndromes in myeloid leukemia is still unknown, but they point to the fact that the patient's spleen had been exposed thirty-three times to the roentgen ray, within two and a half years.

The Turpentine Fixation Abscess.—Comby recalls that the turpentine fixation abscess was first used by Fochier in puerperal septicemia, twenty-five years ago. The treatment became popular and was soon applied in obstetric cases with even slight fever. On account of the extreme painfulness of the fixation abscess, also its uselessness, the method was given up and forgotten. Twenty years later Netter attempted to treat epidemic encephalitis with the fixation abscess. Other physicians used the method not only in acute encephalitis, but also in meningitis, poliomyelitis and postencephalitic parkinsonism. Then came the turn of bronchitis, pneumonia and various infections, influenza, typhus and typhoid. The fixation abscess is being employed for infants as well as for patients of 80. Intolerable pain and fever are not the only inconveniences of the method; sometimes the abscess becomes too large, causing extensive sloughing of the skin, and scarring. In Comby's opinion the barbarous method should be entirely suppressed; he never witnessed any benefit from it.

Histology of the Arterioles in Raynaud's Disease.—Grenet and Isaac-Georges examined the vessels in pieces of skin removed from the affected fingers of three patients with Raynaud's disease. There were lesions testifying to inflammation of the arterioles. This seems to confirm that mere vasoconstrictor spasm cannot induce gangrene, while arteriolitis may be the causative factor of the disease. Two of the patients were syphilitic; in the third the Raynaud's syndrome appeared after a mild infection. These facts may indicate the origin of the vascular changes.

Case of Urinary Amebiasis.—Fiessinger and Parturier observed a case of hemoglobinuria with hemolytic jaundice and splenomegaly in a man, aged 25. The ameba was found in the urine. Evidently the amebiasis was responsible for the hemolytic process; it was probably located in the renal parenchyma. A history of enteritis revealed invasion of the organism by the intestinal tract. All the pathologic phenomena disappeared under emetine treatment.

50: 159-200 (Feb. 5) 1926)

Beneficial Action of Fixation Abscess. E. Feuillié.—p. 161.
*Hemorrhagic Conditions in Leukemias. P. Emile-Weil.—p. 165.
Lipiodol in Treatment of Tuberculous Pericarditis. Lemaire.—p. 166.
*Three Cases of Phrenicotomy. P. Moure et al.—p. 168.
Comparative Tests for Tubercle Bacillus in Sputum. G. Caussade and Cribier.—p. 175.
Primary Aspergillosis of the Lung. Macaigne and P. Nicaud.—p. 183.
*Two Cases of Meningoneuritis. J. Ramadier.—p. 193.
Case of Malta Fever. E. Sergent et al.—p. 197.

Fatal Hemorrhagic Conditions in Leukemia.—Emile-Weil knows of a case of chronic lymphatic leukemia complicated by fatal hemorrhagic purpura. He believes that large and repeated doses of roentgen rays may be incriminated for the hemorrhagic condition, inducing an acute attack of leukemia or pernicious anemia. Septic infection, usually occurring with this disease, may also play a certain rôle in genesis of the hemórrhage. Examination of the blood before each exposure will allow suspension of the roentgen-ray treatment at the right time, and thus avert this dangerous complication.

Three Cases of Phrenicotomy.—Moure, Cantonnet and Lebée applied phrenicotomy in two cases of bronchiectasis confined to the base of the lung, and in a case of a tuberculous process in the middle lobe. The improvement was only partial in the two cases with dilation of the bronchi. The third case is recent, and the results are still uncertain. Phrenicotomy should be used cautiously, since the paralysis of the half of the diaphragm may persist permanently.

Meningoneuritis of the Eighth Cranial Pair.—Ramadier describes two cases of complete and bilateral deafness with disappearance of vestibular reactions in subjects with acquired syphilis. Loss of hearing may be the first and sole manifestation of the neurosyphilis. Lesions involving the eighth cranial nerves are associated with a meningeal reaction. Thus the ear affection may be called "syphilitic meningoneuritis." While in one instance the syphilis had not been treated, in the second case the deafness appeared in the course of mercury treatment. Bismuth may be the treatment of choice in these cases.

Clinique, Paris

20: 365-384 (Nov.) 1925

*Duration of Anaphylaxis. A. David and P. Williatte.—p. 365.
Stenosis of the Pylorus in Infants. M. L. Ombredanne.—p. 367
Ultraviolet Rays in Surgery. M. Zalewski.—p. 368.
Treatment of Dyspepsia. L. Pascault.—p. 372.
Occult Contagious Syphilis in Women. P. Aliamet.—p. 376.

Anaphylactic Sensitization Persisting for Nineteen Years.—An editorial comments on a case recently published elsewhere. In treatment of grave menorrhagia a young woman was given 10 cc. of horse serum (antitetanus serum) following an injection of ergotin. This induced in less than one minute a very severe anaphylactic shock, only temporarily relieved by epinephrine injections. It did not subside completely until late the next day. Phenomena of serum sickness and urticaria kept the patient in bed for two weeks longer; complete recovery not occurring until after two months. Inquiry revealed that the woman had been treated with diphtheria antitoxin at the age of 2. The interval between the sensitizing injection and the injection unleashing the anaphylaxis was thus nineteen years. This seems to be the longest duration of an anaphylactic condition recorded to date. It is advisable to fraction the antiserum in adults having had a similar injection in childhood. No more than 1 or 2 cc. should be administered at the first injection; waiting a few minutes before injecting the rest.

Gynécologie et Obstétrique, Paris

12: 437-512 (Dec.) 1925

Suprarenal Syndrome at Childbirth. A. Frubinsholz.—p. 437.
*Large Cysts of the Urachus. M. Patel and R. Labry.—p. 449.
Pushing Back the Coccyx to Aid Delivery. P. Trillat.—p. 464.
The Urine in Pregnancy Pyelonephritis. Le Lorier and Fisch.—p. 467.
*Treatment of Retroversion of the Uterus. Luque.—p. 476.

Closed Cyst of the Urachus.—Patel and Labry operated on an abdominal tumor in a woman, aged 37. The tumor, diagnosed as an ovarian cyst, proved to be from cystic dilatation of the urachus. No traces of the vesical and umbilical openings existed, and the cyst appeared entirely closed. About ten similar cases have been recorded to date. The diagnosis was not established until operation or necropsy, since there were no symptoms except those from compression by a tumor. The cyst has no tendency to resorption and spontaneous cure. Intracystic hemorrhage is the most frequent complication; it is associated with abdominal pain suggesting torsion of an ovarian cyst. Peritoneal adhesions are frequent in these cases. Puncture of the cyst is contraindicated, as the fluid reappears very rapidly. Over 70 liters of the intracystic fluid were removed in Hoffmann's case, and 50 liters more were found at necropsy. Extirpation of the cyst, also of the adherent part of the peritoneum, is the proper treatment. No fatalities occurred after the operation; the cure was rapid and permanent.

Treatment of Uterine Retrodisplacement.—With Luque's method for correction of uterine retrodisplacement, he makes a Pfannenstiel incision, takes up a loop in each round ligament, and then draws these loops through the upper part of the aponeurosis, and sutures the loops together. This allows upward extension of the uterus during a pregnancy later. The abdominal route should be preferred since this allows surgical treatment, at the same time, of associated lesions of the adnexa. The curved Pfannenstiel incision is superior to the vertical, while it seems to prevent postsurgical hernia, and leaves an almost invisible scar. This incision is especially indicated in women with fat abdominal walls. The operation is rapid, and the results, he says, are excellent. His experience includes many cases of sterility from uterine retrodisplacement, in which the operation was followed by normal pregnancy and childbirth. He has used this method exclusively in the last four years, calling it the Luque ligamentopexy. He gives seven illustrations of the technic.

Paris Médical

59: 141-156 (Feb. 13) 1926

Should Malta Fever Be Reclassified? A. M. Cayrel.—p. 141.
*The Psychology of Biliary Disease. G. Parturier.—p. 148.
The Luxeuil Hot Vaginal Douche. H. Dausset and Gérard.—p. 152.
Sleeping Sickness in Equatorial Africa. M. Leger.—p. 154.

The Psychology of Patients with Biliary Disease.—The nervous disorder accompanying disease of the biliary apparatus may include sleeplessness, also dyspepsia or malaise after the noon meal. About 50 per cent of the patients usually wake up about 2 a. m. and do not fall asleep again till late in the morning. The discomfort after meals consists chiefly in excessive fatigue, somnolency and intellectual exhaustion. The general condition of the patients may remain good, if it is possible for them to sleep in the morning and afternoon, as long as wanted. Otherwise they lose soon in weight, become mentally depressed, incapable of doing any work. The treatment consists in sufficient rest and sleep, full hot baths in the evening (36.5 or 37 C.) for ten or fifteen minutes, the proper diet, and small doses of peptone, from 0.10 to 0.50 Gm., half or an hour before each meal, to aid in desensitization against the evident tendency to protein shock.

59: 157-192 (Feb. 20) 1926

Respiratory Diseases in 1926. P. Lereboullet and M. Lelong.—p. 157.
The Oleothorax. F. Bezançon et al.—p. 167.
Pneumonia in Children. Ribadeau-Dumas and Cathala.—p. 170.
*Phrenicotomy in Lung Disease. A. Maurer.—p. 179.
*Asthma and Ultraviolet Rays. P. Duhem.—p. 190.

Phrenicotomy in Pulmonary Disease.—Maurer's experience includes thirty-two cases of phrenicotomy. It was applied for pulmonary tuberculosis in twenty-two; bronchiectasis in six; and gangrene of the lung in four. Phrenicotomy is preferably indicated in unilateral lesions of the lung, confined to the base; in cases with a cavity in the lung, and in the slowly developing form of tuberculosis. The operation may be made when pneumothorax is contraindicated on account of adhesions, and thoracoplasty on account of poor general condition. No operative complications occurred in the thirty-two phrenicotomies. The results in tuberculosis were encouraging; no conclusions can yet be made as to the other cases, since they are recent and few in number.

Ultraviolet Rays in Treatment of Asthma.—Duhem asserts that ultraviolet rays may be useful in asthma in children if only small doses are applied. The first exposure should not surpass two minutes; the next two are prolonged each by two minutes, six minutes being the maximum. The treatment should be dropped if four or five exposures do not induce an improvement; the series may be repeated after a long interval. One child was completely cured, six greatly improved, four less markedly. Recurrence of the paroxysms was noted in two; the results were negative in four. Since exposures restricted to six minutes have been used, there has been no recurrence of the paroxysms under the treatment.

Presse Médicale, Paris

34: 225-240 (Feb. 20) 1926

*Bronchopneumonia in Syphilis. S. I. de Jong and Lestocquoy.—p. 225.
*Metastases in the Prostate in Staphylococcemia. Strominger.—p. 226.
The Filtrable Forms of the Tubercle Bacillus. P. Hauduroy.—p. 227.
*Eliminating Power of the Salivary Glands. L. Binet.—p. 229.

Chronic Bronchopneumonia in Congenital Syphilis. — De Jong and Lestocquoy describe a case of chronic bronchopneumonia in an infant, 9 months old. The disease developed in the form of intermittent fever with extremely severe attacks of dyspnea, paroxysmal cough and progressing cachexia. The clinical picture resembled that of asthma or congenital stridor or compression of the respiratory tract by hypertrophied glands. The skin reaction to tuberculin, negative in the beginning, became positive later. Nevertheless the early appearance of rickets; enlargement of the peripheral glands, hyperleukocytosis of the cerebrospinal fluid and hyperalbuminosis, also a partially positive Calmette-Massol test, suggested the diagnosis of syphilis. At necropsy the lesions of the lungs appeared similar to those in syphilitic white pneumonia. There was sclerosis of the lung, perivascular and peribronchial. The failure of the specific treatment may be explained by its lesser efficacy in congenital compared with acquired syphilis. Besides, it was applied late.

Metastasis in the Prostate in Staphylococcus Infection.—Strominger reports four cases of fatal carbuncle with metastatic abscesses in the prostate. In three patients death occurred from staphylococcus septicemia; the fourth died suddenly from ulceration of a metastatic tumor and subsequent perforation of the coeliac artery. He believes that local immunization induced with Besredka's specific dressings in the beginning of the affection might prevent dissemination of the coccus in the blood stream. Vaccination may thus complete the surgical treatment. In abscesses of the prostate, injections of an autovaccine should be added.

Elimination by Way of the Saliva.—Binet reiterates that glucose may be sometimes found in the saliva while uric acid and urea are always present. Examination of the saliva of thirty-four diabetics revealed the presence of glucose in two. The uric acid content of the saliva is constant, and does not depend on the amount of the saliva. Dosage of urea in the saliva of fifty patients with uremia showed from 330 to 1,140 mg. per liter against the normal 23 to 164 mg. Determination of the urea content of the saliva may give instructive findings when it is difficult to obtain blood for examination in children or adults.

Progrès Médical, Paris

1787-1862 (Nov. 30) 1925. Partial Index

Preoperative Vaccination. L. Bazy.—p. 1795.
Hemotherapy and Serotherapy of Cancer. A. Bréchot.—p. 1797.
*Sugar and General Anesthesia. L. Chevrier.—p. 1801.
Mental Disturbances After Operations. H. Codet.—p. 1803.
Postoperative Care of the Mouth. A. Colombet.—p. 1807.
Care Before and After Operations on the Stomach. Desplas.—p. 1807.
Irregular Menstruation. G. Jeanneney.—p. 1809.
Ultraviolet Rays in Dermatology. Jeanselme and Marceron.—p. 1815.
Hydatid Cysts of the Liver. L. Ramond.—p. 1827.
Diabetes and Surgery. F. Rathery.—p. 1845.
*Sodium Citrate in Surgery. M. Renaud.—p. 1847.
Ether Anesthesia by the Rectum. Robineau.—p. 1847.
Tracheobronchoscopy for the Practitioner. A. Soulas.—p. 1851.
Influence of Operations on Menstruation. H. Vignes.—p. 1854.

Sugar in Preparation for Operations.—Chevrier strives to avert the injurious action of anesthetics on the liver cell, inducing sometimes insufficiency of the organ with consecutive cirrhosis. He thinks this can be accomplished by increasing the amount of glycogen in the liver. For this, large amounts of sweets are given before and after the operation. Fluids in abundance, with jam, fruit preserves, highly sweetened decoctions and milk were ordered the evening before, and a cup of the sweetened decoction again two hours before the operation. Drip proctoclysis with a 4.8 per cent solution of glucose was arranged after the operation. Contrary to the routine opinion, anesthetics seemed to be better tolerated with this method than when given on an empty stomach. The postoperative by-effects were less pronounced but vomiting still occurred occasionally; the cholemia soon disappeared.

Indications for Sodium Citrate in Surgery.—Renaud reiterates that intravenous injections of sodium citrate not only prevent hemorrhage at operations or delivery but are especially effectual in arresting hemorrhages from mucous membranes, such as epistaxis or metrorrhagia. The rise of vascular tension under repeated doses of the drug may be avoided by adding magnesium chloride (sodium citrate 20 parts; magnesium chloride 10 parts; water 100 parts). Usually 25 cc. is injected; sometimes 15 or 20 cc. may answer the purpose. Even 40 cc. seems to be harmless.

Schweizerische medizinische Wochenschrift, Basel

56: 121-144 (Feb. 13) 1926

*Movable Retroflexion of the Uterus. C. Meyer-Wirz.—p. 121.
Ruedi's Discovery of Davos' Climate. G. A. Wehrli.—p. 125.
Urine Amylase. E. Fricker.—p. 129.
Vaccine Encephalitis. G. Blanc and J. Caminopetros.—p. 131.
*Demography of Cancer. A. Renaud.—p. 132. C'cn.
Erosion of the Cervix. G. Nordmann.—p. 138.

Movable Retroflexion of the Uterus.—Meyer-Wirz believes —contrary to other clinicians—that a movable retroflexion of the uterus may be the cause of various symptoms. No disturbances were observed in 148 of his material of 507 women with retroflexion. He advises to try a pessary. If it relieves the symptoms, the Alexander-Adams operation is indicated.

Demography of Cancer.—Renaud investigated the Swiss mortality statistics from 1901 to 1920. They are especially valuable because of the regularity of medical help and the exact anonymous death certificate system. Switzerland has about 5,000 cancer deaths a year (12.8 per ten thousand inhabitants or 40.9 per ten thousand people over 40 years of age). This means one cancer death every year among 780 inhabitants, or among 220 that are over 40 years of age. Both sexes are about equally affected. The seeming increase since 1901 is chiefly due to the better diagnosis of cancer of internal organs. Increased frequency of cancer of the breast is the only inexplicable exception.

Pediatria, Naples

***34:** 113-167 (Feb. 1) 1926*

*Agglutinins After Vaccination Against Typhoid. L. Auricchio.—p. 113.
*Streptococcus Toxin in Scarlet Fever. M. Gerbasi.—p. 119.
Cerebrospinal Fluid Test. G. Taccone.—p. 131.
Asthma from Bronchial Nodes. C. Giaume.—p. 150.
Tuberculous Meningitis. F. Morabito.—p. 160.

Agglutinins After Vaccination Against Typhoid.—Auricchio points to the possibility of diagnostic errors in children who had been injected with the usual typhoid vaccine. Their blood contains the specific agglutinin. No agglutinins were observed in children inoculated with Caronia's dissolved vaccine.

Streptococcus Toxin in Scarlet Fever.—Gerbasi found that serums from individuals without a history of scarlet fever may neutralize in varying degree filtrates from streptococci isolated from scarlet fever patients, as well as from other streptococcic diseases, and even the filtrates from cultures of other microbes (typhoid, melitensis, cocci). Injection of filtrates from hemolytic streptococci from sources other than scarlet fever produced in children reactions similar to those with the Dick toxin. He believes that his experiments lower the value of specificity of the scarlet fever streptococcus, but indicate the necessity for further studies.

Policlinico, Rome

***33:** 185-219 (Feb. 8) 1926*

*Abdominal Spasms and the Metabolism. P. Alessandrini.—p. 185.
Vesicorectal Echinococcosis. G. Giordano.—p. 190.
Torsion of the Gallbladder. S. Marinacci.—p. 194.

Abdominal Spasms and the Metabolism.—Alessandrini attributes many painful colics and diarrhea to a lowering of the blood calcium. He had good results with intravenous injection of calcium chloride.

Riforma Medica, Naples

***42:** 97-120 (Feb. 1) 1926*

Serodiagnosis in Tuberculosis. G. Brovelli.—p. 97.
*Serum Shock. M. Cayrel.—p. 101.
The Murphy Button. V. Pauchet.—p. 103.
Case of Leprosy. E. C. Cavalcanti.—p. 114.

Serum Shock.—Cayrel describes grave anaphylactic symptoms in a robust man, occurring five hours after injection of diphtheria antitoxin. The patient had been treated with a total amount of 600 cc. of antidysentery serum a few years before, and had borne without harm a preventive dose of antitetanus serum. Because the first injection did not cure the diphtheria, the antitoxin was administered again, with all the precautions (calcium chloride internally, fractional doses of the serum increasing from 1 to 20 cc.). In spite of this, a new anaphylactic condition nearly killed him.

Revista de la Soc. Arg. de Biología, Buenos Aires

1: 589-634 (Oct.) 1925

Embryonal Anomaly in a Cow. J. Llambías.—p. 589.
Epinephrine Secretion Under Influence of Salts. B. A. Houssay and E. A. Molinelli.—p. 593.
Hypothalamus Center for Epinephrine Secretion. *Idem.*—p. 600.
Apparatus for Basal Metabolism Determinations. M. Soto and A. Torino.—p. 613.
Action of Insulin on Basal Metabolism. M. R. Castex and M. Schteingart.—p. 621.
*Spirochetosis in Horses in Argentina. Dios and Zuccarini.—p. 625.
*Trypanosomiasis in Monkeys. L. Dios et al.—p. 627.

First Known Instances of Spirochetosis in Horses in Argentina.—Dios and Zuccarini gave a preventive medicinal injection to a lot of horses from a region where mal de caderas was endemic. The blood of the horses was sterile, but later specimens of blood from six of the horses showed the presence of *Spirochaeta equi.* There were no appreciable symptoms from the spirochetosis.

Trypanosomiasis in Monkeys.—The trypanosomes found in the blood of two monkeys from Paraguay were of the minasense type, but differed slightly from Chagas' description. Microfilarias were also present in the peripheral blood.

Deutsches Archiv für klinische Medizin, Leipzig

150: 127-250 (Jan.) 1926

*Species of Streptococci. W. Lehmann.—p. 127.
Acute Infectious Anemia. K. Eimer.—p. 162.
Electric and Mechanical Stimuli for Gastric Secretion. F. Delhougne.—p. 170.
**Acidity with Gastric Ulcer.* N. Loktionowa.—p. 177.
*Permeability and Diabetes. E. Wiechmann.—p. 186.
*Scopolamine and Acid-Alkali Balance. H. Regelsberger.—p. 208.
*Action of Alcohol on the Stomach. K. Leddig.—p. 232.

Species of Streptococci.—Lehmann sees no reason to give up the species specificity of several types of streptococci. The acquisition of a hemolytic property by *Streptococcus viridans,* cultivated on blood agar, may be explained as a character of the viridans, not as proof of unity of streptococci.

Acidity with Different Localizations of Gastric Ulcer.—Loktionowa found that the acidity is usually above normal with ulcers of the pylorus, and below normal with localization in the fundus. She believes that the difference is due to an inhibiting reflex from the ulcer on its surroundings (normally acid secretion in the fundus, alkaline in the pylorus region).

Permeability and Diabetes.—Wiechmann shows again that the blood plasma contains in the majority of diabetes patients more sugar than the erythrocytes, and that injection of insulin is followed by an equal distribution of sugar between these two constituents of the blood. He considers this an indication of the action of insulin on the cell surface, and a confirmation of the theory of diabetes as a disturbance of the permeability of the tissues for sugar. He found also that the concentration of sugar in the plasma from venous blood in diabetes is equal to or higher than in the arterial. This also speaks for a reduced permeability of the capillaries for sugar. The condition is analogous after administration of dextrose. Injection of insulin is followed in diabetes by inversion of the normal proportion of amino-acids in the venous and arterial blood. The latter contains after the injection more than the former.

Scopolamine and Acid-Alkali Balance. — Regelsberger observed an increased alkali reserve and decreased hydrogen ion concentration of the blood after administration of 0.0005 Gm. of scopolamine. With hypersensitive patients (parkinsonism) half the dose was sufficient. The alveolar carbon dioxide pressure was usually lowered, rarely increased. He concludes that the respiratory center is stimulated by the drug. The urine was always alkaline.

Action of Alcohol on the Stomach.—Leddig found a stronger acidity in subacid and hyperacid stomachs after the alcohol test meal than after the Ewald meal. A roll was better digested with alcohol. Admixture of duodenal juice does not change the hydrogen ion concentration much, and it lowers the total acidity only if present in large amount.

Deutsche medizinische Wochenschrift, Berlin

***52:** 221-266 (Feb. 5) 1926*

*Concretion of the Pericardium. M. Kirschner and M. Matthes.—p. 221.
*Typhoid Epidemic. H. Straub.—p. 223.
*Syphilitic Blood Changes. F. Klopstock.—p. 226.
Psychotherapy of Sleeplessness. I. H. Schultz.—p. 229.
Sthenic Diabetic Coma. I. St. Lorant.—p. 231. C'td.
Hyperacidity and Neutralization. M. Seckbach.—p. 233.
*Arsphenamine in Experimental Recurrens. W. Krantz.—p. 234.
Traumatic Scoliosis. C. Göcke.—p. 236.
Pluriglandular Syndrome. D. Mittelmann.—p. 237.
Balneotherapy in Heart Disease. R. Lurz.—p. 237.
Trophic Ulcers in Parkinsonism. E. Hoffmann.—p. 238.
Treatment of Lichen Ruber. U. Novelli.—p. 239.
Treatment of Gonorrhea. K. Ochsenius.—p. 241.
Chemotherapy. R. Schnitzer.—p. 242. C'tn.
Colitis. O. David.—p. 260. C'cn.

Concretion of the Pericardium.—Kirschner and Matthes' patient had the typical signs described by Volhard, namely, weakness of the heart, venous stasis, especially in the liver, ascites, and the typical full veins of the neck and arms even in the erect position and with the arms raised. The jugular veins showed both systolic and diastolic collapse. These symptoms are due to the inhibition of the diastole with obliteration of the pericardial cavity, while a fibrous mediastinopericarditis interferes with the systole. There was only one symptom—dilatation to the right—which differed from the classical picture. The patient improved considerably after pericardiectomy. It revealed lime incrustation which had not been evident in the roentgen plate.

Typhoid Epidemic.—Straub reports on an epidemic of typhoid in Anklam, and on the endemic occurrences of typhoid in Pomerania—including the seashore resorts.

Syphilitic Blood Changes.—F. Klopstock used alcoholic extracts from cultures of *Spirochaeta pallida* and *Spirochaeta dentium* as antigens for serodiagnosis of syphilis. He claims better results than with organ antigens. Injections of killed cultures of spirochetes produced in rabbits antibodies with a better marked specificity toward his extracts than toward heart extracts. He concludes that the serologic changes in syphilis are induced directly by the spirochetes. If the organ lipoids can be used for the test, this is only because the antibodies against the spirochete induce the production of organ lipoid antibodies.

Arsphenamine in Experimental Recurring Fever.—Krantz confirms Buschke and Kroò's observation on the occasional presence of recurrens spirochetes in the brain of mice treated previously with as much as 0.004 Gm. of neo-arsphenamine.

Deutsche Zeitschrift für Chirurgie, Leipzig

194: 145-288 (Jan.) 1926

Social Insurance and Teaching of Surgery. J. H. Zaaijer.—p. 145.
Results of Treatment of Benign Tumors of the Breast. P. Walzel and F. Starlinger.—p. 152.
Treatment of Diaphragmatic Hernia. O. Uebelhoer.—p. 161.
Ulcer in Traumatic Diaphragmatic Hernia of the Stomach. K. Schaper.—p. 169.
Disturbances After Surgery of Biliary Passages. H. Flörcken.—p. 181.
Rubber Drain to Bridge Gap in Common Bile Duct. K. Gerlach.—p. 195.
*Thoracic Access to Duodenum. H. Kohler.—p. 212.
*Treatment of Fractures of the Spine. A. Mülleder.—p. 220.
Short Femoral Stumps and Prosthesis. C. ten Horn.—p. 234.
*Tumors of Posterior Mediastinum. P. Cokkalis.—p. 244.
Furuncles of Lips. O. M. Chiari.—p. 247.
Dupuytren's Contracture. P. Cokkalis.—p. 256.
Heredity of Dupuytren's Contracture. G. Sprogis.—p. 259.
Malformations of the Feet. Esau.—p. 263.
Congenital Elephantiasis. M. S. Keropijan.—p. 268.
Genesis of Erysipelas. E. Orbach.—p. 276.

Thoracic Access to Duodenum.—Kohler's patient with a perforation of the duodenum came too late to be operated on in the regular way. In such cases an early, although slight, involvement of the left pleural cavity indicates a retroperitoneal abscess. He opened it through the diaphragm with good success.

Treatment of Fractures of the Spine.—Mülleder recommends the Henle-Albee operation in fracture of the spine—especially of the thoracic or lumbar vertebrae. The implant is useless if nervous symptoms persist after laminectomy.

Tumor of Posterior Mediastinum.—Cokkalis reports successful removal of a large fibroma of the posterior mediastinum.

194: 289-421 (Jan.) 1926

*Medical Observations in Paraguay. W. Capelle.—p. 289.
*Protein Cleavage in Burns. R. Eden and E. Herrmann.—p. 303.
*Thoracic Duct in Peritonitis. W. Klug.—p. 310.
Anal Fistula. W. Capelle,—p. 315.
Habitual Dislocation of the Shoulder. F. Böhm.—p. 321.
*Bone Implants in Tuberculous Spondylitis. B. Kipnis.—p. 325.
*Sympathectomy in Spontaneous Gangrene. P. Stradin.—p. 338.
Treatment of Angiomas. E. Glass.—p. 352.
*Blood Picture in Appendicitis. G. Volk.—p. 367.
Dislocation of Cervical Vertebrae. H. Jansen.—p. 390.
Bone Cysts and Syphilis. R. Nissen.—p. 398.
Volvulus of the Small Intestine. A. Schöttle.—p. 401.
Surgery on Convicts. F. Böhm.—p. 407.

Medical Observations in Paraguay.—Capelle found Paraguay free from gout, rickets and the echinococcus. Ulcer of the stomach and cancer of the gastro-intestinal tract are very rare notwithstanding the prevalence of meat (fresh, without spices) in the food. Cancers of other localizations are common. Wounds heal excellently—probably because of the sunny climate. Tuberculosis is rare, although the race is by no means immune.

Protein Cleavage in Burns.—Eden and Herrmann noted increased refraction and viscosity of the blood serum after burns. The sedimentation speed was increased. The hydrogen ion concentration decreased, together with an increase of the potassium ions. The calcium ions decreased, while the total calcium remained constant. They believe that the alkaline cleavage products containing much diamino-acids decrease the calcium ionization and alkalinize the serum. The subsequent preponderance of potassium causes vagotonia.

Thoracic Duct in Peritonitis.—Klug had no therapeutic results with fistula of the thoracic duct in experimental necrosis of the pancreas nor in peritonitis. Dyes injected intraperitoneally only rarely appeared in the lymph of the duct.

Bone Implants in Tuberculous Spondylitis.—Kipnis implants a bone graft in tuberculosis of vertebrae except with hopeless tuberculosis of other organs, amyloidosis or a fistula. He prefers Henle's technic, using sometimes Kausch's modification.

Sympathectomy in Spontaneous Gangrene.—Stradin had good results in obliterating thrombarteritis. He combines sympathectomy with ligation of veins in spontaneous gangrene and intermittent claudication. He reports an experimental sympathectomy made on himself (a young healthy man). No difference between the two extremities was noted a month after the decortication of the brachial artery. Periarterial injection of alcohol may be used, instead of sympathectomy.

Blood Picture in Appendicitis.—Volk admits expectant treatment in appendicitis, if there are no more than 15 per cent neutrophils with "rod-shaped" (narrow, nonsegmented) nuclei, *no* metamyelocytes, and less than 15,000 leukocytes per cubic millimeter.

Klinische Wochenschrift, Berlin

5: 129-168 (Jan. 22) 1926

Trachoma. H. Krumbach.—p. 129.
*Intracellular Ferments of the Liver. Staemmler.—p. 134.
*Leukocyte Counts. E. F. Müller and W. F. Petersen.—p. 137.
*Glycemia Test with Gastric Ulcer. W. Scharpff.—p. 138.
*Glycogen and Insulin. D. Adlersberg and O. Porges.—p. 142.
Virulence of Vaginal Germs. Louros.—p. 143.
*Treatment of Multiple Sclerosis. W. Sauer.—p. 146.
*Blood Phenol in Uremia. E. Becher and S. Litzner.—p. 147.
*Buffered Water for Romanowsky Stain. M. Bálint.—p. 147.
Tetany and Raynaud's Disease. G. S. Margolin.—p. 148.
General Therapy in Tuberculosis. A. Walder.—p. 149.
Heredity in Pathology. W. Weitz.—p. 153.
*Austrian Rules on Proprietary Preparations. W. Heubner.—p. 166.

Intracellular Liver Ferments.—Staemmler found in vitro that phosphorus inhibits the oxydase and diastase strongly and the liver lipase weakly. When he poisoned mice with phosphorus, the diastase of their liver was only slightly inhibited, while the oxydase action was enhanced and that of the lipase was unchanged.

Peripheral Leukocyte Counts.—Müller and Petersen present evidence of a permanent coupling of the peripheral and splanchnic innervation. They obtained many indications of it in experiments made partly independently, partly in collaboration. The grave hyperinsulinemia from administration of 400 units of insulin to a dog induces a peripheral leukocytosis of sometimes more than 40,000 cells per cubic millimeter. Intravenous injection of 20 cc. of a 20 per cent solution of peptone in this condition reduces it to 1,000 in a few seconds, while it increases the leukocyte content of the internal organs. Waves of this kind can be easily reproduced several times. The permeability of the intestinal capillaries changes parallel with these changes (decrease in internal vasocontriction and the subsequent internal leukopenia or vice versa). Any reaction in either the peripheral or the splanchnic region leads to the opposite reaction in the other. The mature neutrophilic leukocytes always accumulate in the region with parasympathetic predominance and decrease with the sympathetic innervation. The blood counts are the finest indicators of the continuous oscillations in the balance between the periphery and the internal organs.

Test Glycemia with Gastric Ulcer.—Scharpff had found that ingestion of 80 Gm. of levulose in 300 Gm. of water is followed in vasoneurotic patients by an increase of the sugar content of the blood. The ratio to the original level is between 1.3 and 2. In normal individuals the index is 1-1.3. He observed a high index in fifteen patients with ulcers of the stomach or duodenum. He believes that levulose is preferable to the dextrose used by Hijmans van den Bergh und Siegenbeek van Heukelom.

Glycogen Storage and Insulin.—Adlersberg and Porges observed an increase in tolerance in diabetic patients treated with insulin while on a diet rich in carbohydrates. They consider storage of glycogen in the liver as the aim of insulin treatment.

Treatment of Multiple Sclerosis.—Sauer injected small doses (0.05-0.15 Gm.) of silver arsphenamine or 0.15-0.45 Gm. of neo-arsphenamine twice a week in multiple sclerosis patients. The total amount of the former was 3 Gm.; of the latter 2.8 Gm. A 10 per cent solution of calcium chloride was used sometimes as vehicle. He had better results in these patients than in those treated with physical measures.

Blood Phenol in Kidney Insufficiency.—Becher and Litzner found free phenols in the blood not only in the last stage of uremia, as Becher formerly assumed, but also in lighter stages of insufficiency of the kidneys. They may even disappear from the blood temporarily.

Buffered Water for Romanowsky Stain.—Bálint recommends as optimal a phosphate buffer of a $p_H = 6.8\text{-}7.0$ for dilution of the stain and washing of the slide.

Austrian Decree on Proprietary Preparations.—Heubner extols the new Austrian regulations in regard to proprietary preparations. He admires the courage and energy expressed by the decree in its intention to "clean the Augean stables." He points out that the decree follows the rules of the Council on Pharmacy and Chemistry of the American Medical Association as well as the principles which were embodied in the resolutions of the commission on drugs of the German Congress of Internal Medicine, of which he has been a leading member.

5: 169-208 (Jan. 29) 1926

Quinine Therapy. K. Junkmann and E. Starkenstein.—p. 169.
*Blood Proteins in Diseases. G. Leendertz.—p. 175.
*Intestinal Regulation of Acidity. W. Löffler.—p. 179.
*Albuminuria of the New-Born. E. Faerber.—p. 181.
A Year of Goiter Prevention. K. Lang.—p. 182.
*Contagiousness of Measles. F. Redlich.—p. 186.
"Nonsurgical Biliary Drainage." Z. Rausch.—p. 187.
"The Blood Sugar in Tuberculosis." W. Landau.—p. 189.
Reply. P. Hecht.—p. 190.
*Biologic Action of Rays. H. Cramer.—p. 190.
*Resorption and Insulin. O. Koref and H. Mautner.—p. 191.
*Lymphogranulomatosis in Child. H. Gysi.—p. 191.
Pylorospasm. Heile.—p. 192.
Heredity. W. Weitz.—p. 195. C'cn.
Vital Statistics in Scandinavia. K. Freudenberg.—p. 206.

Blood Proteins in Diseases.—Leendertz compares the amount of the protein precipitated by diluting the serum with nine volumes of a 0.025 per cent solution of acetic acid with the total proteins. The ratio indicates the relative increase in the most labile protein of the serum.

Intestinal Regulation of Acidity.—Löffler found with Schaudt and Helzer compensatory changes of the hydrogen ion concentration of the feces after intravenous and oral administration of alkaline or acid substances. The reaction of the feces changes within one or two hours after ingestion, before the substance can diffuse directly to the end of the column of feces.

Albuminuria of the New-Born.—Faerber's observations and experiments explain albuminuria occurring in the first few days of life as a sequel of dehydration. Daily administration of any fluid (9 or 10 per cent of the body weight) prevents or cures the condition.

Contagiousness of Measles.—Redlich publishes evidence which sustains the opinion that measles is not contagious later than twenty-four hours after the appearance of the eruption.

Biologic Action of Rays.—Cramer stained the mesentery of living frogs and rats with trypan blue or crystal violet. The color disappeared more rapidly in the living tissue under the influence of roentgen rays and radium. The tint persisted in the dead tissues, and in frogs injected in the winter months. He agrees with Ellinger and Landsberger's explanation of the process as a catalysis of the oxidation.

Resorption and Insulin.—Koref and Mautner had observed that the gastro-intestinal tract of rats fed with 5 cc. of water, milk or even of an 8 per cent solution of magnesium sulphate, and injected with insulin, was empty within an hour. Alcohol acts more rapidly in insulin animals. Curare, which normally is inactive when administered by the mouth, kills the insulin animal. They conclude that insulin accelerates remarkably the resorption from the gastro-intestinal tract.

Lymphogranulomatosis in Child.—Gysi reports a case of lymphogranulomatosis in a neuropathic boy, 11 years old. He had 32,000 leukocytes per cubic millimeter. Of these, 58.5 per cent were eosinophilic polymorphonuclears; 9 per cent eosinophilic myelocytes; 3.5 per cent neutrophils; 7.5 mast cells, and 1 per cent monocytes. The clinical symptoms had begun with a skin eruption.

5: 209-248 (Feb. 5) 1926

*Comparative Anatomy of Encephalitis. E. Joest.—p. 209.
*Fat in Nervous System. J. Berberich.—p. 211.
*Surface Tension of Serum. K. Beckmann.—p. 215.
*Diabetic Coma. I. St. Lorant.—p. 216.
*Phases of Hormone Action. V. M. Kogan et al.—p. 221.
Treatment of Wounds. A. Ritter and Klingenfuss.—p. 224.
Adhesive Pleurisy with Pneumothorax. Unverricht.—p. 227.
Alkali Reserve in Athletes. Full and Herxheimer.—p. 228.
Fibrous Osteitis and Osteomalacia. F. J. Lang.—p. 238.
A Parasite in the Male Urethra. H. Sternberg.—p. 229.
Spontaneous Pneumothorax. H. Dorendorf.—p. 230.
Physicians for Adolescents. Rüdel.—p. 233.

Comparative Anatomy of Encephalitis.—Joest points to encephalitis in animals, especially in horses, dogs and sheep, and to hydrophobia. It seems that they have an etiologic kinship with the human encephalitis. In all of them inclusions have been found in the ganglion cells.

Fat in Nervous System.—Berberich concludes that the development of myeline nerve sheaths occurs in the medulla and probably in the whole nervous system without any aid by cells containing fat. The latter have a pathologic significance.

Surface Tension of Serum.—Contrary to other workers, Beckmann found considerable variations of surface tension of serum after meals and in different forms of edema.

Diabetic Coma.—Lorant points to the published cases of diabetic coma without ketonuria, and adds another in a young diabetic patient. He concludes that this refutes both the acidosis theory and the theory of a specific toxic action of beta-oxybutyric acid. He thinks that a disturbance localized somewhere in the cleavage of carbohydrates is the cause of coma. Where the muscles are intact (young diabetics), insulin helps. In the elderly, with changes in the heart ("sthenic type"), the prognosis is grave. Premonitory edema of the ankles had been observed in all the cases in which insulin did not help.

Phases of Hormone Action.—Kogan, Kamenew and Mantz used the salivary secretion in their studies on the interrelation of injections of insulin, epinephrine, potassium and calcium. They found that the interval between the injections and their sequence is more important than the dosage. These phases of action depend not on one factor but on the totality of the conditions under which the hormones act.

Medizinische Klinik, Berlin

22: 199-238 (Feb. 5) 1926

Work in Tuberculosis. E. Guth.—p. 199.
Psychopathic Children. Mönkemöller.—p. 202. C'td.
Psychotherapy in Urology. J. J. Stutzin.—p. 204. C'cn.
Treatment of Syphilis. M. Oppenheim.—p. 207.
Treatment of Syphilis. G. Scherber.—p. 208.
Diphtheria and Syphilis. F. Reiche.—p. 210.
*Peripheral Metabolic Disturbances. S. Frey.—p. 212.
*Degkwitz' Measles Serum. W. Kaupe.—p. 213.
Necrosis of External Meatus. W. Schramek.—p. 213.
Postoperative Parotitis. Wehmeyer.—p. 215.
"Gastric Secretion." E. Leschke.—p. 217.
Experimental Syphilis. Uhlenhuth and H. Grossmann.—p. 217.
*Latent Syphilis and Divorce. J. Heller.—p. 218.
Disinfectants. V. Gegenbauer.—p. 220.
Electrophysical Treatment. B. Berliner et al.—p. 223. C'cn.
Contusion of the Spine. A. Sigl.—p. 224.

Peripheral Metabolic Disturbances.—Frey injects 1 cc. of a 1 per cent solution of fluorescein sodium subcutaneously, and takes at intervals of one minute the blood from the proximal vein. The dye appeared in the blood one or two minutes later on the leg with ulcers than on the arm.

Degkwitz' Measles Serum.—Kaupe used Degkwitz' serum on three children who had never had measles and on fifteen with probable, but not certain, history of measles. He injected it, as Degkwitz advised, on the fifth day after the appearance of the rash in the child who was the source of the infection. The three susceptible children developed typical measles. Four of the fifteen others had serum sickness. He advises against the use of this serum in prevention of measles.

Latent Syphilis and Divorce.—Heller discusses a recent decision of the German supreme court. It declared that syphilis which in all probability had been cured before the marriage was not sufficient grounds for divorce. A former decision of the same court, while confirming the divorce in a similar case, took the same attitude toward a man who had been declared cured by a physician as toward a man who did not know that he had syphilis.

Mitteilungen a. d. Grenzgeb. der Med. und Chir., Jena

39: 1-162, 1926

*Chronic Character of Peptic Ulcer. K. Walko.—p. 1.
*Thyroidectomy. B. Breitner et al.—p. 45.
*The Soft Palate. P. Neuda.—p. 51.
Primary Lung Tumors. M. Brandt.—p. 74.
*The Goiter Question. P. Schmitz-Moormann.—p. 82.
Sedimentation Test in Arthritis. M. Holzweissig.—p. 117.
Hydronephrosis and Contracted Kidney. Z. Kairis.—p. 138.
*Tenderness of Testis from Injury of Kidney. J. Severin.—p. 149.

Chronic Character of Peptic Ulcer.—Walko found no parallel changes between the subjective disturbances and remissions and the secretory, motor or roentgen symptoms of gastric and duodenal ulcers. He believes that the periods of pains and subjective latency are due only to changes of sensitization of the vegetative nerves of the organ.

Thyroidectomy.—Breitner, Nobel and Rosenblüth determined the basal metabolism in thirty-two adolescents and young adults who had had an operation on the thyroid from one to three years previously. They conclude that with a correct surgical technic there is no danger of hypothyroidism.

The Soft Palate.—Neuda describes changes in the soft palate in various diseases of the gastro-intestinal apparatus. They are more distinct and diagnostically more valuable in young adults than in the elderly. He observed a redness of the soft palate in the majority of patients with ulcers of the duodenum. This corresponds to G. A. Friedmann's finding of polycythemia in many such patients. Ulcers of the stomach or jejunum or appendicitis present no such changes. A yellow color (near the raphe and border of the hard palate) is characteristic of disease of the liver, especially of parenchymatous changes in cholelithiasis and syphilis. In the latter, the blood vessels are frequently indistinct because of a fatty infiltration. A bronzed and yellow discoloration aided him once in the correct diagnosis of pancreatitis complicating gallstone disease. It occurs even in acute cases. He believes that the soft palate represents the beginning of the entodermal layer, and therefore is subject to similar changes as the rest of the gastro-intestinal tract.

The Goiter Question.—Schmitz-Moormann examined the thyroids in the goiter zone of Baden. The percentage of iodine increases slowly from birth to old age (up to 1 mg. per gram of dry substance) and is lower than in regions where the iodine content of the soil is normal. The total content is the same as in normal thyroids. It seems that the enlargement of the gland serves to increase the absorbing surface for the iodine. The growth of a diffuse colloid goiter stops when the iodine content is increased by medication to about 1.7 per gram of dry substance. Parenchymatous goiters contain more water than colloid goiters.

Tenderness of the Testis from Injury of the Kidney Region.—Severin observed in war injuries of the kidney region the same extreme tenderness of the homolateral testis as in kidney colics. The scrotum is not hypersensitive.

Münchener medizinische Wochenschrift, Munich

73: 181-226 (Jan. 29) 1926

*Serum Prophylaxis of Measles. R. Degkwitz.—p. 181. C'cn, p. 248.
*Experiences with Measles Antiserum. O. Wiese.—p. 184.
*Syphilis Infection from the Cadaver. E. Hoffmann.—p. 185.
*Alimentary Glycemia and Water Metabolism. O. Klein and E. Lang.—p. 187.
*Breathing Type and the Body. E. Hörnicke.—p. 190.
Meinicke Microtest. J. Burtscher.—p. 192.
Prosthesis After Amputation of the Thigh. E. Schilcher.—p. 194.
Climacteric Disturbances. Zöckler.—p. 196.
Duodenal Pylorus Reflex. T. Bársony.—p. 197.
Reagent for Purity of Arsphenamine. A. Hirsch.—p. 197.
Allergic Conditions in Syphilis. S. Bergel.—p. 198. C'cn.
Obstetric Twilight Sleep. R. Kuhn.—p. 201.
*The Furnishing of Drugs. T. Meinecke.—p. 203.
Sanatoriums for Tuberculous Children. F. Lange.—p. 204.
Recuperation Colonies for City Children. L. v. Seht.—p. 206.

Serum Prophylaxis of Measles.—Degkwitz infected monkeys and sheep repeatedly with filtrates from the nasopharyngeal secretion of measles patients or with tissue cultures inoculated with the virus. He made no attempts to isolate the germ. The virulence of the aerobic cultures was so irregular that they were useless for vaccination in man. The serum obtained from the animals treated with them protected to a certain extent children exposed to measles. It failed completely when given on the first or second day of incubation. The best results (protection of 122 out of 134 children) were obtained when the injection was given between the seventh and eleventh day.

Experiences with Measles Antiserum.—Weise used Degkwitz' protective sheep serum in a sanatorium for tuberculous children. He believes that early administration is the most important point, but he obtained a mitigation of the measles even when injecting the serum up to the seventh and ninth day of incubation.

Syphilis Infection from the Cadaver.—Hoffmann points out that the spirochetes may live and multiply in the organs after death. Their movements—even in brains from paresis cases—persisted sometimes for days. Infection of a rabbit with 3 day old necropsy material proved successful. Syphilitic infection acquired at necropsy is not only possible but has been proven beyond doubt in seven cases, and is probable in seven other cases. He queries why such cases are so rarely reported. One reason may be the tendency of the infected physician to keep it secret.

Alimentary Glycemia and Water Metabolism.—Klein and Lang observed in patients with liver disease a steeper and sometimes higher glycemia curve and faster decrease when dissolving the sugar in 1,500 cc. of water instead of 250 cc. Some of the patients had glycosuria with the former technic.

Breathing Type and the Body.—Hörnicke favors the abdominal type of breathing for women. The rarity of chlorosis and of fainting spells at parties may be due to the rarity of tight lacing. Yet even a belt may cause trouble. He observed a higher blood pressure and more rapid respiration and pulse in healthy girls after work with a belt which did not cause discomfort at rest.

The Furnishing and Prescribing of Drugs.—Meinecke, who is president of the Prussian chamber of pharmacists, points to the higher expenses connected with proprietary preparations. He saw once the financial statement of an establishment concerning such a remedy: costs of manufacture, 300,000 marks; propaganda, 1,500,000 marks; profit, 200,000 marks. No wonder that a widely advertised "remedy for rheumatism," consisting of acetyl-salicylic acid and a trace of quinine—selling for 2 marks—represents really only a tenth of this value. The balance, 1.8 marks, is paid for the advertising and middleman. The patient who felt better, after taking a prescribed proprietary preparation, buys it the next time without consulting the physician, and so do his friends. Such prescriptions are convenient, but they injure the physician.

73: 227-268 (Feb. 5) 1926

*Venous Pressure in the Legs. E. Schott.—p. 227.
*Treatment of Emphysema. G. Ganter.—p. 230.
Anaerobes in Endocarditis. W. Lehmann.—p. 233.
*Photochemical Serum Test. H. Bültemann.—p. 238.
Treatment of Fracture of Leg. H. Marxer.—p. 239.
Gonococci in Lochia. A. L. Kaplan.—p. 241.
Adsorption of Gas by Charcoal. M. A. Rakusin.—p. 243.
Surgery of Phimosis. F. Dietel.—p. 244.
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Fetal Inclusions. M. Budde.—p. 246.
Treatment of Ulcers. F. Schlunk.—p. 247.
Occupational Hygiene. L. Telcky.—p. 252.
*Prohibition in America and Tuberculosis. J. Donath.—p. 254.
*Prohibition in Russia. A. Dworetzky.—p. 263.
*"Uricoxydase of the Blood." L. Flatow.—p. 268.

Venous Pressure in the Legs.—Schott found about the same pressure in the veins of the foot as in the ulnar vein, taking the level of the auricle as the base. In standing, the hydrostatic pressure of the column of blood, beginning at the heart, is added to the dynamic pressure in the veins.

Treatment of Emphysema.—Encouraged by Reich's success in treatment of emphysema by a pneumoperitoneum, Ganter, reports on five emphysema patients treated with partial pneumothorax. It diminished the residual air and the patients felt decidedly better. After completion of his work, he learned that partial pneumothorax is being used in emphysema of horses. Schwenkenbecher attempted it once in a man but desisted, because the patient complained of severe pains.

Photochemical Serum Test.—Bültemann made Lange and Heuer's photochemical silver nitrate test with the serum from eighty-seven patients with gynecologic cancers, and controls. All the cancer serums gave a positive result. The reaction was also positive with septic diseases and in lactation; negative in pregnancy.

Prohibition in America and Tuberculosis.—Donath publishes American statistics on tuberculosis mortality. The notable decline which has continued ever since 1920 can be attributed only to the improvement of conditions in respect to hygiene. He concludes from this that the improvement is due to prohibition. He emphasizes that the hygienic, economic and moral beneficial results of prohibition are most evident in New York, Chicago and San Francisco.

Prohibition in Russia.—Dworetsky—after declaring that no communist would say that communism exists in Russia—points out that it may produce a peculiar impression to see that the soviet government, consisting, as he says, of idealists, has reintroduced hard liquors. Yet the situation was such that there was no other way. The prohibition of alcohol, which had been decreed by the czar, was effective at first, but the moonshine production of abominable stuff began soon. Poisonings, blindness, deaths followed. Cologne, denatured alcohol, furniture polish, were consumed in large amounts. At the time of the revolution the distillation was better, and in every peasant's home, as well as in the cities, stills were at work. Even the famine did not diminish the industry, since the peasant preferred hunger to the abandoning of the lucrative trade. The soviet government tried to stop the alcoholism and the wastage of vitally important grain by military measures. The only result was installation of better stills after the old ones were confiscated. The government then started to sell wines; later, beer. The moonshining flourished as before. Then the government tried to sell weak liquor. The Russians did not drink it. At last the government decided to put out the pre-war quality at a high price. It seems that this will end the moonshining and check the criminal element thriving in the trade. The government designated the health commissioner, Semaschko, to start an educational campaign against alcoholism, since the legislative and military measures failed completely.

"Uricoxydase of the Blood."—Flatow corrects his paper summarized in these columns, Feb. 27, 1926, p. 658. He has lately found it impossible to oxidize added uric acid. The oxidizable substance is precipitated by silver lactate, but does not redissolve in tenth-normal hydrochloric acid.

Wiener klinische Wochenschrift, Vienna

39: 149-176 (Feb. 4) 1926

Instincts. L. R. Müller.—p. 149.
Fourth Disease. K. Hochsinger.—p. 154. C'cn, p. 186.
Peptic Ulcer and the Test Meal. T. Bárşony.—p. 156.
*Mastitis. E. Preissecker.—p. 158.
Pellagra in Carinthia. J. Matuschka.—p. 159.
*Death from Oil of Chenopodium. F. Suchanka.—p. 160.
Tumors of the Spinal Cord. K. Grosz.—p. 162. C'cn.
"Children Who Won't Eat." J. K. Friedjung.—p. 164.
Treatment of Hypertension. A. Müller-Deham.—p. 164.
Toxic Skin Affections. S. R. Brünauer. Supplement.—pp. 1-24.

Mastitis.—Preissecker has encountered frequently Mathes' form of mastitis. It begins with a circumscribed redness of the skin, originating usually from a cracked nipple, with sudden high fever and spontaneous recovery in two or three days. He is opposed to preventive application of alcohol to the nipples. Soap and water—without rubbing—is sufficient.

Death from Oil of Chenopodium.—Suchanka's patient, a robust girl, aged 20, took about 10 Gm. of oil of chenopodium within a week. She became suddenly sick, later unconscious, and died in a few days.

Zeitschrift für Urologie, Leipzig

20: 1-80, 1926

*Posterior Urethra in Enuresis. I. Deutsch.—p. 1.
Hematuria with Gumma of the Kidney. M. Sirovicza.—p. 5.
Gynecomasty and Tumor of the Testis. G. B. Monaschkin.—p. 8.
Ureteral Calculus. E. Holstein.—p. 20.
Tuberculosis of the Kidney. R. Zimmermann.—p. 23.
Poisoning by Drugs Applied in the Urethra. G. Praetorius.—p. 43.
*Massage of the Prostate. J. J. Stutzin.—p. 59.

Posterior Urethra in Enuresis.—Deutsch observed a case of enuresis in an elderly man. Posterior urethroscopy revealed a large and anesthetic colliculus seminalis. The condition of the verumontanum returned to approximately normal after potassium iodide treatment. The rest was probably a sign of beginning tabes.

Massage of the Prostate.—In treatment of gonorrhea, Stutzin had about the same results without massage of the prostate, as with it.

Zentralblatt für Chirurgie, Leipzig

53: 321-384 (Feb. 6) 1926

*Disturbances from Use of Prosthesis. Zur Verth.—p. 322.
Lumbosacral Sympathectomy After Ligation of Popliteal Artery. Y. Osawa and G. Usami.—p. 326.
Repeated Perforation of Duodenal Ulcer. K. Borszeky.—p. 328.
Postoperative Retention of Urine. Wolff v. d. Sahl.—p. 330.
Perforated Peptic Ulcer. F. G. Meyer.—p. 333.
The Leukocyte Picture in Surgery. A. Sorkin.—p. 336.
"Surgery of Scoliosis." H. Plagemann.—p. 338.

Disturbances from Use of Prosthesis.—Zur Verth investigated the cause of the painful nodules and abscesses on the stumps after amputation of the thigh. The bacteriologic findings were negative, but Kyrle diagnosed from the histologic sections a granuloma due to the presence of foreign bodies. These are particles from the leather edge of the artificial limb, rubbed into the skin.

Zentralblatt für Gynäkologie, Leipzig

50: 321-384 (Feb. 6) 1926

Thymus Extract and the Uterus. N. Temesváry.—p. 322.
*Hyperthyroidism and Castration. O. Khoór.—p. 343.
Decidua in the Vagina. E. O. Schoch.—p. 345.
Sedimentation Test and Gynecology. G. Frommolt and L. Motiloff.—p. 348. Idem. O. Silzer.—p. 353.
Sedimentation Test and Adnexitis. N. Cukor.—p. 362.
*Lactic Acid in Placenta and Ovary. A. Loeser.—p. 363.
Gynecologic Forceps. O. P. Mansfeld.—p. 364.
Infected Abortion. F. Clauser.—p. 368.

Hyperthyroidism and Castration.—The symptoms of exophthalmic goiter improved in Khoór's patient after extirpation of a uterine fibroma plus uterus and ovaries.

Lactic Acid in Placenta and Ovary.—Loeser found with Warburg's apparatus a strong aerobic and especially anaerobic production of lactic acid by the human placenta. It was most pronounced in the organ from the earlier months. The ovary also produces lactic acid.

Zentralblatt für innere Medizin, Leipzig

47: 97-112 (Jan. 30) 1926

Clinical Aspect of Acute Leukemia. R. Jaksch-Wartenhorst.—p. 97.

Acta Medica Scandinavica, Stockholm

63: 195-300 (Feb. 11) 1926

*Progressive Amyotrophia. S. Wohlfahrt.—p. 195.
Treatment of Tuberculosis with Sanocrysin. V. Bie.—p. 220.
*Phenolsulphonphthalein Kidney Function Test. C. Lundsgaard and E. Møller.—p. 242.
*Excretion of Phenolsulphonphthalein in Circulatory and Liver Diseases. E. Møller and C. Lundsgaard.—p. 268.
*Fate of Phenolsulphonphthalein in the Organism. E. Møller and C. Lundsgaard.—p. 277.
Intracranial Aneurysms. H. Odqvist.—p. 286.

Progressive Amyotrophia.—Wohlfahrt encountered five cases, resembling the Charcot-Marie type, in one family, as he describes. There were records of the same disease in two preceding generations—a total of ten cases in four generations, with eleven members escaping. Transmission was by both sexes, but a healthy member had healthy offspring. The patients said that their condition seemed to improve under moderate exercise and grew worse with repose. He reviews the various theories as to the etiology. In all, the knee-jerk was normal and there were no sensory disturbances.

Stain Test of Kidney Function.—Lundsgaard and Møller regard elimination in two hours of 70 per cent of the phenolsulphonphthalein injected by the vein as the lowest limit of the normal range. A liter of water should be ingested simultaneously with the injection of the dye. Decreased elimination of the dye is an early and delicate sign of incipient insufficiency of the circulation, either general or localized in the kidney. The interpretation of the findings is not dependable, however, if the output of urine is scanty or there is hypertension or other circulatory disturbance. The stain does not pass into edema fluids, ascitic, subcutaneous or pleural. In sixty-seven patients the excretion was protracted in circulatory diseases; the delay was most pronounced in cases with stasis in the liver. The same excretion curve was found in various forms of liver disease, with or without a failing heart. This and other findings suggest that the liver has much to do with the fate of the dye in the body. The elimination curve may throw light on anatomic and functional conditions in the liver, and thus prove a useful diagnostic guide.

Hospitalstidende, Copenhagen

68: 1069-1120 (Dec. 3) 1925

*Gold Salts and Experimental Tuberculosis. O. Bang.—p. 1069.
Treatment of Eczema. C. Rasch.—p. 1118.

Gold Salts and Experimental Tuberculosis.—Bang's verdict is unfavorable as to any specific action on tuberculosis from Sanocrysin. Møllgaard and others protest that he used doses universally conceded to be inadequate.

68: 1121-1144 (Dec. 10) 1925

*Growth Under High Oxygen Pressure. Fischer and Andersen.—p. 1121.

Growth of Normal and Malignant Tissue Cells Under High Oxygen Pressure.—Fischer and Buch Andersen relate that the metabolism of normal cells and of cancer cells is modified under the influence of augmented oxygen pressure, and the modification differs in the two groups. They reproduce a chart which shows these differences and the range of pressure-time findings which differentiate normal from cancerous tissue. They succeeded in inducing such modification of the metabolism in cultures of fibroblasts and chicken sarcoma tissue cells that the result was finally a pure connective tissue culture.

68: 1145-1160 (Dec. 17) 1925

*Influence of Chemical Light Baths on Bactericidal Processes in Blood and Serum. V. Genner.—p. 1145. C'cn, p. 1161.

Influence of Chemical Light Rays on Bactericidal Processes in the Blood and Serum.—Genner used the Finsen lamp or the quartz mercury vapor lamp to study the effect of radiation on the bactericidal power of the blood and serum. He was unable to detect any increase at all in human blood serum, and in rabbit serum only occasionally and so slight and transient that other causes may perhaps be responsible for it. Repeated irradiation showed increased bactericidal power in rabbits but he thinks the venesection accounts for this.

68: 1177-1196 (Dec. 31) 1925

*Calcium Content of the Serum. W. T. Andersen.—p. 1177.

The Calcium Content of the Serum.—Andersen found an average of 10.7 mg. of calcium per hundred cubic centimeters of blood serum in persons under 45 and 10.4 mg. above this age in his research on thirty-eight normal subjects or with normal blood findings. The range was from 10 to 11.5 mg., and the findings did not vary on repeated examination of the same subject, except during menstruation when the serum calcium was always increased by about 1 mg. The research was done at the Finsen Light Institute and the influence of the arc light in modifying the calcium content was sometimes unmistakable. With insufficiency of the kidney, the serum calcium was often low but not constantly; in one case this gave the clue to pathologic conditions in the kidneys although the function tests had elicited only normal responses. With hypertension without kidney symptoms, the serum calcium was normal or slightly above. It was below normal in the asthma cases and also with exophthalmic goiter, but in the latter group the preceding roentgen irradiation may have contributed to the low calcium figure. It was low also in two cases of cancer, normal in two others, and exceptionally high (21.8 mg.) in a case of metastatic cancer in the bones.

Ugeskrift for Læger, Copenhagen

88: 1-26 (Jan. 7) 1926

*Treatment of Tuberculosis with Metal Salts. N. Lunde.—p. 1.
Types of Meningococci. M. Kristensen and O. Moltke.—p. 10.

Treatment of Pulmonary Tuberculosis with Metal Salts.—Lunde refers to Walbum's method which he has applied in fifty-eight cases. The aim is to supply certain salts which are normally present, and which it is assumed are lacking in the tuberculous. He remarks that every sanatorium has had cases in which it seemed to require only a little stimulus to restore the normal balance and start the healing of the tuberculous process, and this treatment is a tentative groping after a stimulus of this kind. Manganese chloride, gold chloride, or beryllium chloride and calcium were the metals used in turn or separately, and the doses were minimal. No untoward by-effects were observed, and the general verdict is favorable.

88: 27-52 (Jan. 14) 1926

Experimental Hermaphrodism and Lack of Antagonism Between Sex Glands in Adult Fowls. Pézard et al.—p. 27.
*Reducing Power of Monosaccharids. S. A. Holbøll.—p. 28.
Kidney Functioning Under Sanocrysin Treatment. N. C. Lunding.—p. 30.
*Case of Helminthophobia. C. Gram.—p. 38.
Enterococcus Sepsis. A. Nyfeldt.—p. 41.

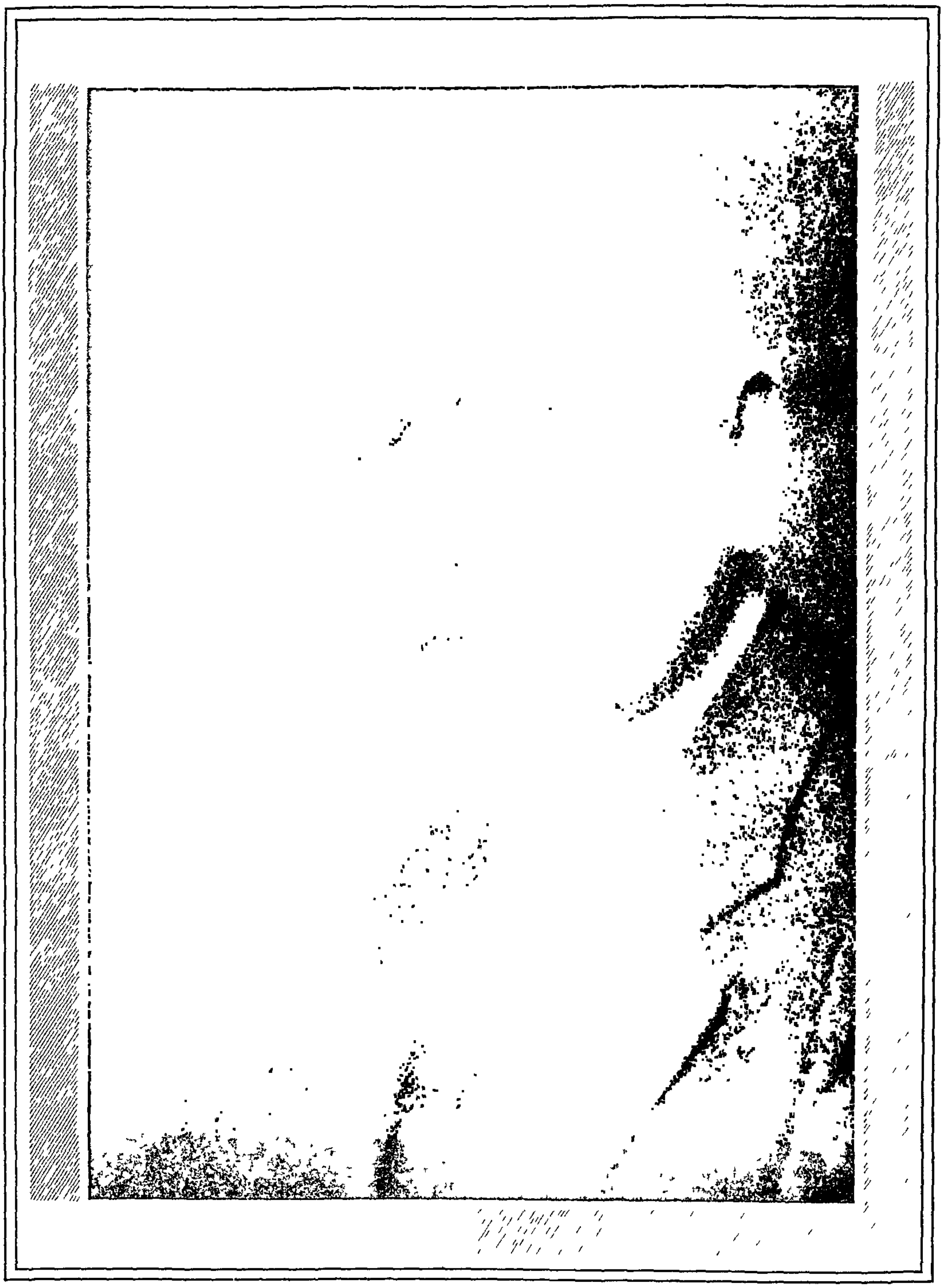
Reducing Power of Small Amounts of Monosaccharids.—This is Holbøll's eleventh communication on carbohydrate metabolism. He here charts the findings with the potassium ferricyanid technic in respect to glucose, galactose, fructose and mannose.

Helminthophobia.—Gram discusses the natural history of the oxyuris and ascaris in connection with the case of a young woman with a chronic neurosis which has taken the form of an obsession of infestation with helminths.

88: 53-78 (Jan. 21) 1926

*Danger of Intra-Uterine Injections. J. Fog.—p. 53.
Caustic Injury of Stomach with Intact Esophagus. Biering.—p. 58.
Anatoxin in Vaccination Against Diphtheria. S. Schmidt.—p. 61.
Types of Meningococci. F. Wulff.—p. 63.
Fate of Insulin-Treated Diabetics. T. B. Jacobsen.—p. 66.
Congenital Word Blindness. H. P. T. Ørum.—p. 73.

Dangers of Syringe Used to Induce Abortion.—Fog comments on the increasing number of cases of septic abortion in the hospitals in recent years, the diminishing birth rate, and the increasing number of medicolegal cases of abortion. He gives the details of nine cases of criminal proceedings on account of intra-uterine injections, and describes in detail the findings in eight cadavers in which death had occurred from measures to induce abortion, mostly the use of an ebonite "mother's syringe." As a rule, necropsy failed to reveal any direct injury responsible for the sudden death in these cases. The interval was short between the introduction of the syringe and the fatal collapse; only in one was it as long as five and a half hours. Embolism of the lung or pulmonary artery was not found in any of the cadavers. Fatal shock has been known from such interventions, but Fog thinks that air embolism was probably responsible for the fatality in these cases. It was beyond question in three of those examined with a view to this possibility, and as the findings in all the eight closely corresponded, it is more than probable that air embolism was the cause in all. Although three days had elapsed in one case, the heart still contained large amounts of air. The syringes commonly used for abortive purposes are liable to introduce considerable air with the fluid and induce high pressure.



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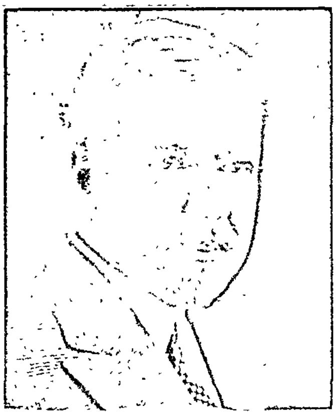

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LYMPHOBLASTOMA (MALIGNANT LYMPHOMA)

AGE AND SEX INCIDENCE, DURATION OF DISEASE, AND THE EFFECT OF ROENTGEN-RAY AND RADIUM IRRADIATION AND SURGERY [*]

GEORGE R. MINOT, M.D.
AND
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BOSTON

One of the big problems of modern medicine is to unravel the nature of the group of conditions that have progressive enlargement of the lymphoid tissue as their most prominent feature. Classification leads to clarification, and yet confusion arises from sharp distinctions between conditions that have many resemblances; which may be because some of the conditions are but different phases of the same disease. This is the state of affairs for those disorders with unknown etiology that may be placed under the general heading of lymphoblastoma, a name considered by some as synonymous with malignant lymphoma.

These terms may include lymphatic leukemia (lymphocytic and lymphoblastic), aleukemic lymphatic leukemia (pseudoleukemia, aleukemic lymphadenosis), lymphocytoma, Hodgkin's disease (lymphogranuloma), lymphadenoma, lymphomatosis, lymphosarcoma, round cell sarcoma, leukosarcoma and lymphadenosarcoma. Such conditions as Banti's disease, chloroma and Mikulicz's disease also may be included.

The views and opinions concerning the nature and relationships of such cases are multiple, and thus students of the problem have utilized a constantly confusing terminology, and not infrequently disagree on the exact diagnosis of a given case. Some apply a term that is synonymous with one used by another, while at other times a special type of case is designated by a name used by others to cover a much broader group. Hodgkin's disease with the pathologic histology described by Dorothy Reed is sharply distinguished by many authorities from two other conditions that they term pseudoleukemia and lymphosarcoma. Others inappropriately include as Hodgkin's disease all, more often some, cases of the latter two conditions, and the terms malignant lymphoma and lymphadenoma have been used for such a group alone. Some contend that two types of lymphoblastoma may occur in one patient. Confusion in the group called lymphosarcoma arises because of differences of opinion as to what constitutes this condition and the lack of appreciation of the difference between the origin of tumors involving structures composed of much lymphatic tissue. Pseudoleukemia and aleukemic lymphocytic or lymphoblastic or lymphatic leukemia are essentially synonymous, as is at times the term aleukemic lymphadenosis. Chronic lymphatic leukemia with a leukemic blood picture is the form of lymphoblastoma most easily separated from others. However, except for the peripheral blood picture, no important distinction, even by pathologic examination of tissue, can be made from cases termed pseudoleukemia or aleukemia, and the same case at different times may be given correctly the one name or the other.

It is highly desirable to have uniform terminology and to distinguish the differences of cases falling into this large group here termed lymphoblastoma. The differences are not for special consideration here, but it is wise to recognize four types dependent on their age incidence, clinical features, blood pictures, and pathologic histology of the diseased tissue. Lymphatic leukemia and pseudo or aleukemic, lymphatic leukemia may be considered two forms, and the progressively scirrhous type, usually known as Hodgkin's disease and often regarded as an infectious process, is a third. The fourth type of lymphoblastoma has a distinct tendency to invasion of tissue, to involve the tonsils, gastro-intestinal tract and serous membranes, and shows a multiplication of reticular tissue and lymphoid cells, and is known as lymphosarcoma. To be sure, some cases of lymphoblastoma now considered very different may later be shown to have the same etiology, while others apparently the same may eventually be proved to have different origins.

MATERIAL AND NATURE OF THE STUDY

Knowledge concerning the general trends of disease as related to age, sex and duration, with and without treatment, aids prognosis and the understanding of pathologic states. It is our purpose in this communication to set forth data of these aspects of 477 cases of lymphoblastoma without making special subdivisions, but there are excluded those with a leukemic blood picture for any significant period of time; in other words, cases of typical chronic lymphatic leukemia. Cases of acute leukemia are also not included. The attempt is made to survey broadly facts concerning lymphoblastoma, yet recognizing the desirability to do so in a more detailed manner. Information of the type presented already has been given for chronic lymphatic leukemia.[1]

The statistical study of Desjardins and Ford [2] of 128 cases of "Hodgkin's disease and lymphosarcoma" and that of Schreiner and Mattick,[3] based on forty-six cases of "lymphogranuloma (Hodgkin's disease)," are the chief recent ones comparable to that presented here. The information presented by Bunting[4] concerning age and sex incidence is important. It is recognized that there are other papers bearing on the topics to be discussed, but for the most part they refer to few cases or treat the subjects in a somewhat different manner from that which follows.

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[*] Because of its length this article is published in two parts, the second of which will appear next week.

[*] From the Medical Services of the Collis P. Huntington Memorial Hospital of Harvard University and the Massachusetts General Hospital.

[1] Minot, G. R., and Isaacs, Raphael: Lymphatic Leukemia: Age Incidence, Duration and Benefit Derived from Irradiation, Boston M. & S. J. **191**: 1 (July 3) 1924.

[2] Desjardins, A. U., and Ford, F. A.: Hodgkin's Disease and Lymphosarcoma, J. A. M. A. **81**: 925 (Sept. 15) 1923.

The diagnosis of some form of lymphoblastoma was established by the pathologic examination of tissue[5] in 85 per cent of all the 477 cases. The clinical aspects of the other 15 per cent were so typical of lymphoblastoma that the cases have been included in the group. These 477 patients came either to the Massachusetts General Hospital (232 cases) between 1901 and 1925, or to the Collis P. Huntington Memorial Hospital of Harvard University (225 cases) between 1913 and September, 1925, or were seen in private practice (twenty cases) since 1916. Forty-eight per cent were seen first since the year 1919, and 19 per cent first came to one of the clinics before 1915. Of the 477 patients, 401 are known to be dead, and seventy-six are living. In some manner about 100 other cases have been studied, but as the observations are incomplete they are not utilized for this report.

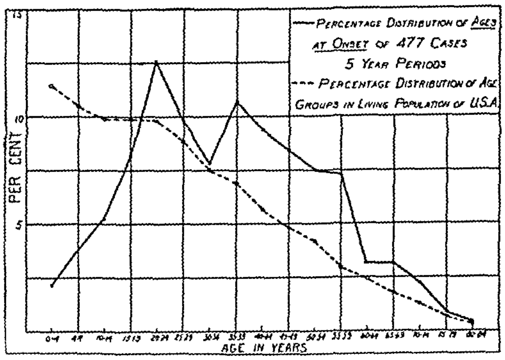

Chart 1.—Solid line, percentage distribution by five year periods of 477 cases of lymphoblastoma arranged according to age at onset; for comparison, a curve (broken line) is shown of the percentage distribution of persons of similar ages in the living population of the United States.

AGE AND SEX INCIDENCE

Lymphoblastoma occurs in both sexes at all ages, but with a varying frequency as to age and sex incidence. The percentage distribution of the age at onset[6] in five-year periods is shown for all the 477 cases in chart 1. A line in this chart shows the percentage distribution of the population in the United States. The general decline in the population after the age of 24 roughly parallels the progressive decrease in the incidence of lymphoblastoma. Two similar curves plotted for ten-year periods show a closer parallelism than those in chart 1 for five-year periods, but the former arrangement of data does not permit the demonstration that lymphoblastoma is relatively rare at the ages of 30 to 34 inclusive.

It has been well recognized that lymphoblastoma occurs with greater frequency in males than in females. In this series there were 327 males and 150 females, or 68 per cent of the former and 32 per cent of the latter, a ratio of 2.12 to 1. This ratio varies significantly for different age groups, as may be seen by inspecting chart 2. There are, however, fewer females than males at all ages except 10 to 14 inclusive. The actual age incidence per hundred males and per hundred females is shown in chart 3, and the absolute number of cases is recorded in table 1. These figures demonstrate that the highest incidence of lymphoblastoma is in patients aged from 20 to 24, with a secondary rise in frequency in those from 35 to 39. They also show that the incidence in both sexes is highest at the ages of 20 to 24. However, the height of the incidence in the women tends to develop slightly later in life than in the men, as is evinced by the fact that the frequency of lymphoblastoma becomes greater, after the age of 14, more rapidly in males than in the females. Likewise, the second highest point of frequency of lymphoblastoma in the females occurred at a later age (40 to 44) than the males (35 to 39). The disease appears to be relatively rare in males at the time of puberty (10 to 14 years of age), while the frequency of lymphoblastoma in females of this age and at the ages of 45 to 54, or the time of the menopause, is to be noted. A somewhat similar state of affairs appears to occur for that type known as chronic lymphatic leukemia, and the greatest age incidence for these patients is between 45 and 55.[1]

The age incidence of that form of lymphoblastoma known as Hodgkin's disease, to which males are especially susceptible, is shown in chart 4. The chart presents, with comparable age groups, Bunting's[4] data and the data for the 173 cases of the 477 of this series considered typical of Hodgkin's disease, as told by histologic examinations of a lymph node and the peripheral blood. The incidence of this condition is greatest in persons from 20 to 30. They comprise the majority of all cases of lymphoblastoma occurring at these ages, which are the ones at which the incidence for all forms of lymphoblastoma reaches its height. After the age of 30, there is a rapid decline in the occurrence of Hodgkin's disease, which takes place in an essentially constant manner. The relatively greater incidence of Hodgkin's disease in boys from 5 to 10 than in the five-year period before and after these ages is shown in both series of cases. Bunting has pointed out that the occurrence in females is greatest a few years later in

Table 1.—*Duration of Lymphoblastoma*

Number of Patients (Dead) Having Lymphoblastoma Less Than 10 Years, Arranged According to Age at Onset

	Age Groups in Years																	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	Total
Males...	6	14	3	23	37	28	24	34	24	21	20	21	7	8	4	2	1	277
Females	2	2	5	9	17	11	8	7	14	11	11	7	5	4	4	0	0	117
Total..	8	16	8	32	54	39	32	41	38	32	31	28	12	12	8	2	1	394

Average Duration of Lymphoblastoma for Cases Lasting Less Than 10 Years

All cases..	2.57 years
Males..	2.42 years
Females..	2.95 years

Number of Patients (Dead) Having Lymphoblastoma 10 Years or Longer

1 female (age group 5-9)
2 males, 1 female (age group 40-44)
1 male in each of the age groups 45-49, 50-54, 65-69
Total 7; 5 males, 2 females

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[3] Schreiner, B. F., and Mattick, W. L.: Radiation Therapy in Forty-Six Cases of Lymphogranuloma (Hodgkin's Disease), Am. J. Roentgenol. **12**: 133 (Aug.) 1924.

[4] Bunting, C. H.: Diseases of the Lymph Glands, Nelson Loose-Leaf Medicine, New York, Thomas Nelson & Sons **3**: 347, 1920.

[5] The examinations were made by Drs. W. F. Whitney, J. H. Wright, F. B. Mallory, H. F. Hartwell, H. T. Karsner, S. B. Wolbach and E. W. Goodpasture.

[6] The term "onset" is used in this paper to indicate the time when the patient first had symptoms or signs that could be attributed to lymphoblastoma. It is recognized that the disease state must have existed earlier.

life than in males, and that there are relatively more instances of the disease in females among older persons. The present data show the same, but not so clearly as Bunting's. It may be noticed that the curve for the age incidence in males of our series rises faster than that for females, though the actual peaks for the two sexes fall in the same age group. The curve for the women then tends to fall somewhat more slowly than that for the men. When the data are plotted for the age groups 18 to 22, and 23 to 27, the distribution curves yield a peak for males in the first group and for females in the second, thus resembling more closely Bunting's observations.

The time in life when lymphoblastoma occurs with the second greatest frequency appears to be also somewhat later in females than in males. Thus, this state of affairs is quite similar to that for the height of the age incidence in males and females for all 477 cases and for those of that form called Hodgkin's disease, which comprise the majority of all cases of lymphoblastoma at this time in life. However, the second greatest age incidence of patients with lymphoblastoma is not dependent on the majority having Hodgkin's disease. This second peak is dependent especially on cases termed by some pseudoleukemia and lymphosarcoma. As recognized by Bunting, the decade between the ages of 30 and 40 is the particular time in life to find transitions from Hodgkin's disease to pseudoleukemia. Such records as those of Schreiner and Mattick,[3] indicating a second peak of age incidence for Hodgkin's disease, definitely suggest that the cases included are not of the same type as those given this name by others. The statistical facts recorded in the accompanying charts concerning the age incidence of patients with lymphoblastoma serve to emphasize what Bunting and others have noticed, that age and sex importantly influence the susceptibility of the lymphoid tissue to disease. These factors play a rôle not only in age incidence and occurrence of type of lymphoblastoma, but also in the rate of progress of the disease state.

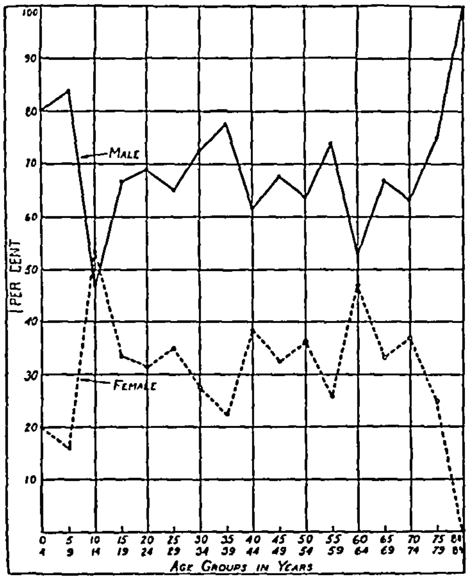

Chart 2.—Lymphoblastoma (477 cases, 327 males and 150 females): percentage of males and females in age groups of 5 years, arranged according to the ages at onset.

DURATION

Suitable irradiation with roentgen rays or radium is a distinctly beneficial form of treatment for patients with lymphoblastoma, bringing relief to many sufferers. Desjardins and Ford[2] have pointed out that it is not well known whether such treatment or other forms of therapy definitely prolong the life of these patients or not. Data bearing on this have been collected for the present series of cases and have been analyzed and studied together with some other aspects of the duration of lymphoblastoma. The influence of several factors on duration must be borne in mind, and the facts are presented from a general point of view, recognizing that errors arise in dating the onset of disease, that differences occur from year to year in so-called adequate treatment, and the like. Data concerning duration for all cases when plotted on probability paper give far from a straight line, clearly indicating that several factors must play a rôle and that there is no simple rule for predicting the duration of lymphoblastoma.

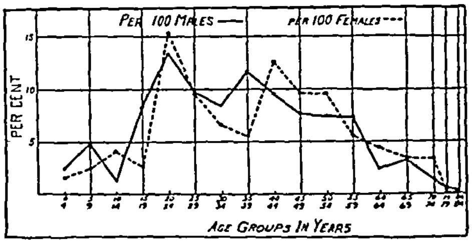

Chart 3.—Incidence of ages of males (solid line) and females (broken line) at the onset of lymphoblastoma

There were 163 patients of the 401 known to be dead that were not treated with any form of irradiation; thirty-three of these underwent a surgical operation with removal of a considerable amount of diseased tissue. The ages and the sexes of this group and the character of their disease states seem to be essentially the same as for 238 patients now dead who received treatment with either or both roentgen rays or radon.[7] Such treatment was given more often relatively late than early in the disease, though there were some first treated very early, but rather more were treated not long before death. The operations on the irradiated

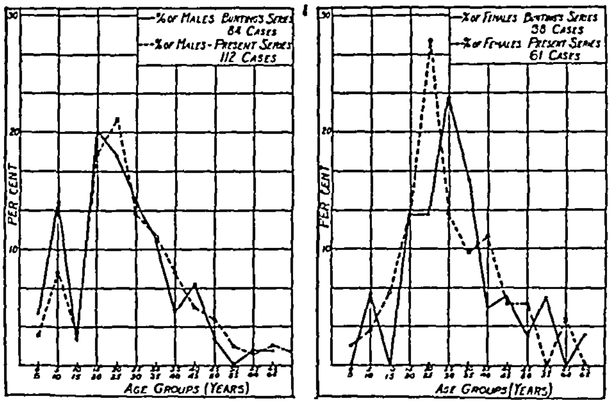

Chart 4.—Age distribution of cases of Hodgkin's disease, the percentage of males and the percentage of females in the different age groups of the present series (broken line) compared with Bunting's series (solid line).

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[7] Roentgen-ray treatments were given at the Massachusetts General Hospital by Dr. George W. Holmes and his associates. At the Huntington Hospital, the roentgen rays were administered by Drs. R. G. Giles, M. C. Sosman and R. W. Vance, and the radon by various members of the staff.

and nonirradiated patients varied widely in nature; a few were very complete dissections with removal of all obviously diseased lymph nodes; others consisted of the removal of large lymphomatous masses. Details concerning surgical measures are not for discussion here, as only the trend of the course of lymphoblastoma will be considered. A surgical operation of a therapeutic sort was performed on thirty-four of the irradiated patients. There were a number of patients who took arsenic in some form both among those irradiated and among those not receiving such treatment. A few patients were transfused with blood. Many of the patients that were given irradiations did not receive what today would be considered the most suitable form or amount, while a few received irradiation that cannot be looked on as the best that might have been given at the time. However, as a group, these patients were treated systematically and their symptoms often were alleviated markedly. They serve as a series of irradiated patients for comparison with those not receiving such treatment.

Chart 5 illustrates the percentage frequency of the duration of disease not only for all 401 cases, but also for the males and females separately. Lines in this figure demonstrate the susceptibility of males to the rapidly fatal types of lymphoblastoma, and the likelihood that women will survive longer than men after the onset of the illness. In spite of the fact that the average duration for all cases is 2.76 years, there were forty-one patients (10.2 per cent) that had lymphoblastoma for six years or more before death; twenty-eight (11 per cent) of those irradiated, and 13 (8 per cent) of those not so treated. Seven (1.74 per cent), four irradiated and three that were not, lived more than ten years after the initial symptoms. The cases of long duration are given special consideration below.

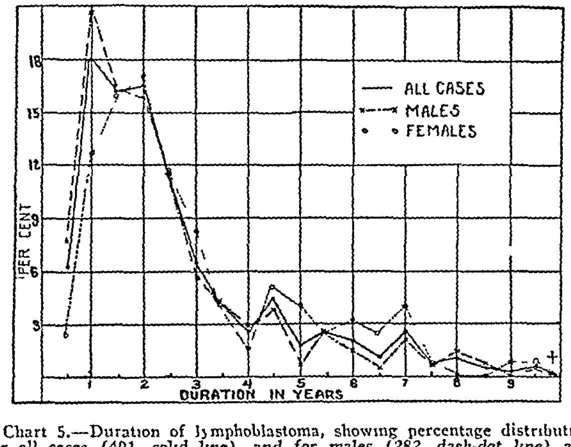

Chart 5.—Duration of lymphoblastoma, showing percentage distribution for all cases (401, solid line), and for males (282, dash-dot line) and females (119, broken line) separately.

EFFECT IN GENERAL OF IRRADIATION ON DURATION

A comparison of the duration of the disease in the irradiated and nonirradiated patients is shown in chart 6. These data suggest that this therapy has lengthened particularly the life of patients destined by nature to have their disease less than two and a half years, and has not influenced the course of those living long. Somewhat similar circumstances were met in studying chronic myelogenous leukemia.[8] There are, however, other ways to explain the differences. Patients with an acute form of lymphoblastoma that lasts a year or less probably soon become so ill that they are unable to reach a hospital where irradiation can be given; or it may be believed that their condition is so precarious that they are not referred for such therapy. On the contrary, it is probable that most patients with a relatively insidious onset of disease reach a clinic for irradiation. Thus, cases destined by nature to be of short duration would be more numerous in the nonirradiated group, and those fated to last long would become more often included in an irradiated group. That these may be the circumstances is suggested because the percentage number of patients living less than two years after the onset of lymphoblastoma for each group first seen in the periods of years 1900 to 1910, 1910 to 1915, 1915 to 1920, 1920 to 1925 +, was rather similar, though the highest percentage, not more than 8 per cent above the lowest, did occur in the ten-year period (1900 to 1910) before irradiation treatment was given at all. A comparison of the length of the course of disease in the four groups of patients first seen in these four different periods (making proper allowance for those now living) shows a very similar duration incidence. This suggests that in spite of the progressive improvement in irradiation methods, patients with lymphoblastoma recently have not had the disease run a longer course than it did fifteen years ago. The data concerning the seventy-six patients now living, and who, as a group, have had probably the best irradiation therapy, may be taken to indicate that this is not necessarily true. The chance for a long duration of their disease is more favorable than it was for the deceased when the probability of duration is taken into account with the time that they have already had lymphoblastoma.

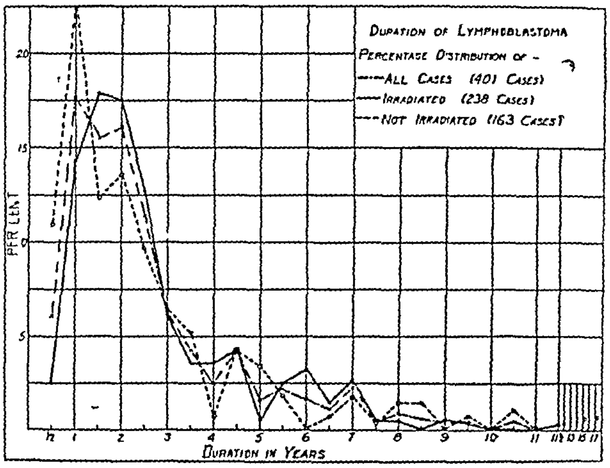

Chart 6.—Duration of lymphoblastoma: percentage distribution for all cases (401, dash dot line), and for the irradiated (238, solid line) and nonirradiated (163, broken line) patients separately.

A comparison of the data concerning the duration of the irradiated and nonirradiated deceased patients, plotted by the method of summation, shows that at any given time there was a greater percentage of patients living that were irradiated than were not. Even so, the differences at any period of duration are slight. The average duration of the disease in the 238 patients irradiated was 2.88 years, and in the 163 that were not, 2.45 years. The frequency of different durations of lymphoblastoma is almost exactly the same in the patients treated and those not treated by irradiation when only four groups are considered; namely, those having this disease less than three years, from three to six, from six to nine, and more than nine years. The influence of early irradiation on duration is reserved for consideration below.

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[8] Minot, G. R.; Buckman, T. E., and Isaacs, Raphael: Chronic Myelogenous Leukemia: Age Incidence, Duration, and Benefit Derived from Irradiation, J. A. M. A. 82:1489 (May 10) 1924.

EFFECT OF SURGERY ON DURATION

The patients treated by surgical measures, whether or not they received roentgen rays or radon, had lymphoblastoma on the average 3.67 years, or 1.11 years longer than the average duration (2.56 years) of the disease in the 334 not undergoing a therapeutic operation. The chances of the former living beyond three years from the time of their first symptoms was greater than for the whole group of irradiated patients. However, the percentage dying a year or less after the onset of disease was the same as for the cases given no especial treatment, and only 10 per cent less than for the latter group at the end of the two-year period. A comparison between the duration of each of the thirty-four cases (average 4.07 years) treated surgically and by irradiation, and that of the thirty-three cases (average 3.25 years) treated only by surgical measures is shown by means of summation in chart 7. The plots show clearly that longer durations occurred in the former group. Such statistics can mislead one, and the following probabilities are to be borne in mind: Surgical procedures are apt to be undertaken chiefly when lymphoblastoma seems local or has progressed slowly or is not extensive. It is just such cases that seem destined by nature to last relatively long. Hence, it is difficult to state for a group of cases that surgical treatment was responsible solely for a long duration of the disease. That surgery alone or combined with irradiation can perhaps cure or play a most important rôle in extending the duration of a given case appears probable and is referred to later. The facts, however, especially as they pertain to the influence of a combination of surgery and irradiation in contrast to surgical treatment only, must also be evaluated cautiously. Some deaths occurred soon after operation. Such cases without previous irradiation would fall into the group of patients not irradiated, thus favoring the statistics for those that were irradiated. Again, in the irradiated group are patients who received no such treatment until long after a therapeutic operation, when the rays were used rather as a measure of last resort, so that very probably they did not influence duration.

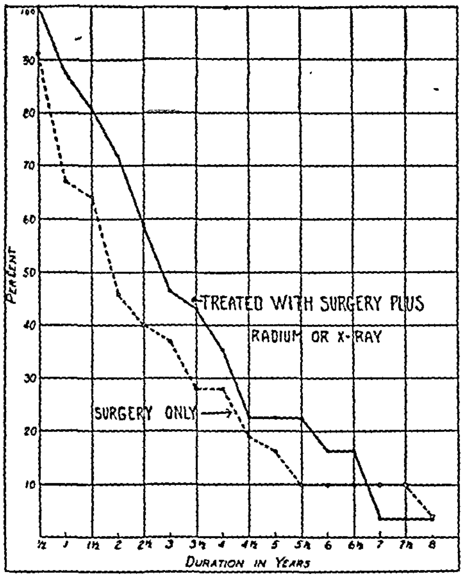

Chart 7.—Duration of lymphoblastoma: A comparison, by summation curves, of the percentage of patients living for given periods of time, with reference to whether they were treated by surgical measures combined with roentgen-ray or radium (thirty-four cases, solid line) or with surgery only (thirty-three cases, broken line).

(To be continued)

GENTLENESS IN GENITO-URINARY SURGERY

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With the foregoing title in mind, I have stood on the edge of this short literary outburst for several years; years that have only emphasized the more the importance of this subject. Twenty years ago in the early moments of our fierce scientific surgical ardor, such a title would have seemed rather too effeminate to adorn a serious surgical essay. Today the situation is somewhat different, for the avoidance of trauma has come to have a new significance to the thoughtful student of contemporaneous surgery.

Back in days much earlier, when hospitals and surgical workshops were germ-ridden with organisms of exalted virulence, a surgical operation, with trauma or without trauma, was more likely than not to be followed by grave septic complications, and a fatal issue was a common conclusion. Then came the era that gave us antisepsis. Then asepsis itself came, with its marvelous results, as compared with the dark days of death dealing surgery before its advent. It can hardly be wondered at that the surgeon should for a time lose sight of that precious possession held by him in earlier days; namely, a deft and delicate touch. It is not at all surprising that so many great surgical teachers, elated with this new mastery of sepsis, assumed a boldness with the body tissues that placed them on strangely new pinnacles of fame. Naturally, these hardy masters had many ardent students who, with sterile gowns and gloves, emulated their methods. Had science not hit on the hidden secret of all that ghastly mortality of previous time? What had gentleness to do with the issue? Had not experience, hard on the heels of science and asepsis, proved that the germ and not the lack of gentleness was the one and great cause of infection and all the sorry sequellae of the surgeon's work?

Now it happened that the influence of this new boldness of surgical technic hit very hard on the field of medicine in which the then budding genito-urinary specialist was encamped. He, too, emulated the venturesome tactics of the famous masters; but, unlike the cutting, tearing, prying, delving and hard retracting surgeon, he was armed also with pushing, spreading, puncturing and probing implements which he used along the urethra, in the bladder and on beyond through the ureters into the kidneys. It is in the use of these instruments especially that this paper essays to deal. For again, unlike the general surgeon's problem of surgically clean methods, the genito-urinary surgeon has to deal with germ enemies resident along the urogenital canal, as well as those organisms of a pathogenic nature that remain after an infection has subsided and apparently disappeared. For him to traumatize the tissues in his instrumental manipulations means a lowering of tissue resistance and a breaking down of nature's defense mechanism against these invading or domesticated forces of germ enemies resident along the genito-urinary tract—a tract that cannot be prepared against infection as the skin is prepared for surgical procedure.

Bound up intimately with this question of using genito-urinary instruments in a manner that will not bruise the tissues and lay them open to easy invasion of infecting organisms is the larger subject of mental and nervous traumatism through fright, fatigue, fear, shock, apprehension, anxiety, alcohol and general anesthesia. Not a single one of these causes, which play major rôles in depression of tissue resistance and pave the way for local infection, can for a moment be lost sight of or forgotten by the urologist bent on attaining a high level of results. Crile's work on this important phase of surgery has added new luster to the intellectual side of American medicine, and workers in any branch of surgery cannot be said to be equipped who have not an appreciation of it.

A brilliant illustration of where we stand in this art is the mental reaction of any physician who is himself to be catheterized or examined with sound or cystoscope. If the genito-urinary surgeon wishes to find out exactly how the medical profession at large feels about the use of these necessary instruments today, let him have a few doctor patients who are in need of, let us say, a cystoscopy or a ureteral catheterization. He will soon find that he has on his hands patients filled with a pathetic fear of what they look on for themselves as a dreadful ordeal—an ordeal filled with the possibilities of excruciating pain, subsequent infection and, perhaps, irreparable injury. In consequence of this attitude rooted deep in their subconscious mind, it oftentimes becomes a well nigh impossible task to render them real service.

Next in difficulty of handling are those lay patients who have had experiences at the hands of inexperienced medical men in this realm of endeavor, persons who tell of a cystoscopy under a general anesthesia and of having been laid up in the hospital for days or weeks thereafter, recovering from the effects on their outraged and traumatized tissues.

Next to these comes the long line of patients traumatized by catheters, sounds or bougies. Notable among them are those brought to the hospital after fruitless attempts to relieve an acute attack of urinary retention, their urethras bleeding, congested and hopelessly blocked, and the stage all set for a serious infection. A surgical operation is forced on them, which might well have been avoided or postponed until they were carefully led up to the point at which it could have been performed with relative safety and success.

In larger numbers even come those patients whose strictured urethras have for years been subjected to reckless traumatizing and forcible dilation, suffering from each new adventure with increase of scar tissue and receiving in addition such sequelae as retention, infection of prostate or epididymis, and false passages. Can it be wondered at that, when the physician himself comes to face the necessity of a genito-urinary examination, he trembles with dread at the prospect, and the sphincteric sentinels of his bladder become as adamant as the fortifications of Verdun?

It does seem too bad that all this avoidable pain, suffering and infection, and the many escapable operations, with their consequent disability of vital functions, should not be brought into the focus of our more serious consideration—and held there. By gentleness, we can avoid virtually all the pain in connection with instrumentation. By gentleness, we can overcome the patient's apprehension, which unconsciously closes the external sphincter of the bladder. By gentleness in dealing with strictures, we can obviate splitting the scar and adding to it new fibrous tissue. By gentleness in cystoscopy, we can almost always avoid using anesthetics, which only blunt the patient's sensibility, our surest guide in avoiding traumatism with its many undesirable sequelae.

But even with gentleness in genito-urinary technic, a desirable state of affairs is not to be expected from those not sufficiently trained and experienced. Genito-urinary work is the one thing the young practitioner, as he starts in practice, looks to as his surest financial support. I should say it is the one thing that he is least fitted to attempt, for it seems the one medical branch of all others in which there is the greatest possibility of doing harm and inflicting permanent injuries. Many older practitioners "dabble," as they say, in genito-urinary work. How they have the temerity so exactly to express it is difficult to understand when one sees the results.

Perhaps one of the most serious situations of all from the standpoint of the patient and of the prestige of the profession of medicine as a whole is the practice of some general surgeons to assume the responsibility of serious genito-urinary surgical cases without the least equipment or training, other than their ability as operators. This practice is a two-edged sword; for they not only will not bother to learn the essential preoperative and postoperative factors entering into the problem of these cases, thus lowering the standard of attainable end-results, but they keep from the hands of the earnest young genito-urinary surgeon much operating room work essential for him to have to be sufficiently skilful in this lesser aspect of the problem, the operative technic.

If the general surgeon sincerely believes that the surgery of the genito-urinary tract should be included in his field and excluded from the smaller but highly technical branch assumed by the specialist, there can be no possible objection to his training himself to equal proficiency in the diagnostic and preoperative responsibility, and to his learning to see his patients out of their difficulty after operation. Divided responsibility here, as in other leading walks of life, is not the soundest plan.

The time has come when a sincere consideration of such subjects as these is no longer possible to postpone. There is good reason why there are so many other cults pioneering in the broad field of the healing art. If complete public confidence is to be restored to the profession of medicine, it will have to be merited by the quality of services rendered all along the line.

Medical Practice of Primitive Tribes.—Primitive tribes existing at the present day show in their medical practice features closely comparable to those found everywhere in the medicine in antiquity. Disease is ascribed to the action of supernatural agents or of human magic, and treatment is carried out mainly by incantation, ceremonials and exorcisms, but again we find a number of remedial practices, apparently divorced from the demonological theory and therapy, and including the use of drugs and such simple measures as poulticing and bloodletting.—Hart, Bernard: *Lancet* **1**:586 (March 20) 1926.

SCARLET FEVER

AN ANALYSIS *

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E. CLARENCE RICE, M.D.
AND
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In presenting this analysis of the work of the scarlet fever ward of the Garfield Memorial Hospital, we recognize that many points require much further study; but certain facts seem to be of sufficient importance and sufficiently clearly demonstrated to justify offering them as additional evidence in support of reports already published and to which our results appear to correspond. While we shall not refer at length to papers that have appeared, we are indebted to the workers who have made available the newer methods for the study and management of one of the most dreaded diseases and to those who have generously supplied us with materials.[1]

We have been interested in the various phases of the scarlet fever problem, including the intracutaneous test, after the method of the Dicks, both for susceptibility and for diagnosis, the Schultz-Charlton blanching test, the attempt to produce active and passive immunity, and treatment by the specific antitoxin.

THE INTRACUTANEOUS TOXIN TEST

Except in the early period of the study, there has been no difficulty in adjusting the concentration of the toxin for the Dick test so that a true determination of susceptibility or immunity might be obtained. The fact that a given specimen actually possessed toxic properties was readily shown by injection into the skin of a number of susceptibles, and the permissible concentration was controlled by similar injections in a number of known recovered scarlet fever patients. A valuable aid also was the plan of making successive intracutaneous injections of toxin, at intervals of several days, in patients acutely ill with scarlet fever, the very early test usually giving a positive result, and the later ones becoming progressively less marked until a definite negative reaction was obtained. This procedure is not only a guide to the regulation of the proper skin test dose, but is also a demonstration of the specificity of the toxin.

It cannot be too strongly emphasized that tests of the type of the Dick test should always be made in groups, so that a series of controls may be had for each observation and for each lot of toxin used. It has been our good fortune, through the courtesy of the Public Health Service, to have a supply of its standard toxin. This preparation has been used in duplicate tests by simultaneous injection with a second toxin in seventy subjects, and the reading has corresponded in all but four instances, two of these being in the early stage of the study when the second toxin proved too strong, as it was then prepared. The second toxin practically always gave a more marked reaction than that resulting from the Public Health Service standard. As there appears to be a considerable range of safety between the limits of which a truly diagnostic serum may be adjusted, that is, without danger of false positive or negative reactions, we have rather favored the stronger concentration, as giving more definite and more readily classified readings, a factor of considerable importance in applying the test to dark skinned races, such as the negro. In those cases in which a difference in reading occurred, the Public Health Service standard gave a negative and the second toxin a positive reaction, of faint or moderate degree.

We have no knowledge that any of the subjects, tested by either of these toxins and considered immune, have later developed scarlet fever, and our attitude in advocating the more concentrated toxin is based rather on theory than on definite evidence; but it is our feeling that the use of the higher concentration, properly controlled by tests on known recovered patients, may better insure the recognition or detection of a small percentage of susceptibles who may possess sufficient natural antitoxin to neutralize the toxin contained in the more dilute preparation.

That there is a great variation in the amount of natural antitoxin in different persons is well brought out in a series of Dick tests, and this point should be constantly kept in mind, for, as will be described later, the use of a large dose of toxin for active immunization of a susceptible in whom an unusually marked local reaction indicates the presence of an unusually small amount of natural antitoxin may lead to startling results, if not to actual danger.

In a series of 284 intracutaneous tests, 109 were positive, 175 negative, eighteen pseudonegative and nine combined positive. The protein factor, when present in the pseudo and combined reactions, did not cause confusion, as the toxin and control areas corresponded closely in appearance in the former, and the toxic, superimposed on the protein reaction area, was clearly contrasted with the purely protein reaction area of the control in the latter. In connection with the subject of the combined reaction, we would mention again our belief in the advantage of the stronger concentration of toxin.

No instance of an immune having subsequently contracted scarlet fever, as determined by the intracutaneous test, has occurred in this series, so far as we know. On the other hand, eight found to be Dick positive and therefore considered susceptible have since developed the disease. The fact that the subjects of these tests included a number of nurses and medical students who afterward were directly exposed to scarlet fever in the wards has added interest to the study of the results.

The successive intracutaneous injections of toxin, already referred to in connection with the adjustment of the dose for use in the Dick test, have also, in a number of instances, helped to clear up doubt as to diagnosis. This procedure, if begun early in the illness, may well be the means of preventing exposure of a susceptible, suffering from some disease simulating scarlet fever, to the danger of infection from too hasty admission to the ward, on the basis of clinical study alone. On the other hand, the evidence that a patient was immune when placed in the scarlet fever ward or the reinforcement of the clinical diagnosis by the single or repeated Dick test may help to relieve the attending physician or institution of the burden of criticism frequently associated with supposed errors in this type of disease. We would hesitate today to make a diagnosis of scarlet fever in a patient previously well, who, promptly after tonsillectomy, some other surgical pro-

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* From the Clinical Laboratory and Scarlet Fever Service, Garfield Memorial Hospital, in collaboration with Drs. R. S. Beale, H. C. Macatee and C. M. Beall, attending physicians.

[1] All materials not otherwise specified in the text were supplied through Eli Lilly & Co., Indianapolis.

cedure, or a severe burn, developed a rash, with or without angina and nausea and fever, until the clinical evidence has been supported by the appropriate use of the Dick test.

SCHULTZ-CHARLTON TEST

The rash extinction test of Schultz-Charlton has been of some interest with regard to diagnosis and also as a means of judging the potency of antitoxins

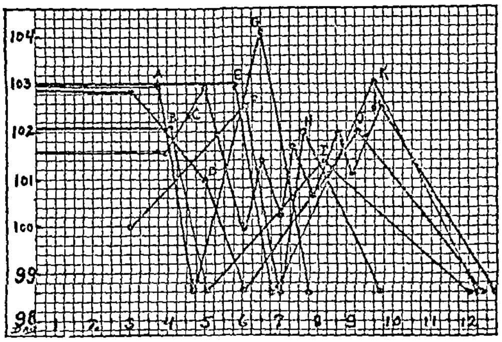

Chart 1.—Antitoxin dosage in patients showing no severe complications: *A*, 15 cc. (II); *B*, 25 cc. (II); *C*, 10 cc. (III); *D*, 30 cc. (II); *E*, 40 cc. (I); *F*, 10 cc. (I); *G*, 25 cc. (III); *H*, 10 cc. (I); *I*, 25 cc. (II); *J*, 40 cc. (I); *K*, 35 cc. (III), and *L*, 10 cc. (III). Average fever period, 10.6 days. In the charts, the type of antitoxin is indicated by Roman numerals: I, prepared by Dochez; II, Lilly unconcentrated; III, Lilly early unconcentrated; IV, Lilly new concentrated, at least 30,000 to 50,000 skin test doses per cubic centimeter.

used in treatment. When several lots of antitoxin have been at hand, we have used in a given case the one that gave the best blanching reaction when either or both produced a positive result. As the result of this procedure is much affected by the time at which it is carried out with relation to the onset of the illness, and as a local protein reaction frequently renders the test useless, we have depended less on this than on other methods of studying both of these problems. From a rather limited number of observations, we have concluded that a positive blanching test doubtless indicates some degree of antitoxic potency in a serum, but that a failure to blanch the scarlet rash does not necessarily indicate that the serum will not prove to be an efficient antitoxin, even in the case in which it gave the negative result.

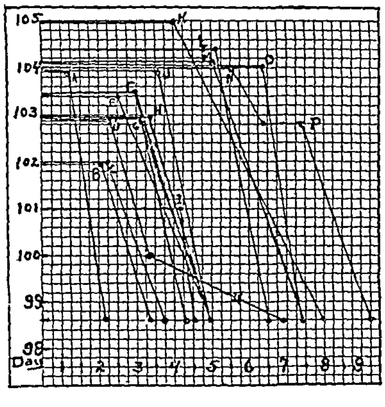

Chart 2. — Antitoxin dosage in patients showing no severe complications: *A*, 40 cc. (II); *B*, 40 cc. (I); *C*, 10 cc. (I); *D*, 40 cc. (III); *E*, (IV); *F*, (IV); *G*, 15 cc. (II); *H*, 40 cc. (II); *M*, 40 cc. (I); *N*, 40 cc. (I); *O*, 40 cc. (II); *P*, 40 cc. (I). Average fever period, 5.4 days. *X*, case with inpetigo.

IMMUNIZATION

In the field of immunization, our concern has been rather with the active than with the passive method. Several prophylactic injections of antitoxin have been given, but, even in a very limited series, what appear to be quite contrary results have been seen. One patient developed scarlet fever within four weeks after the inoculation. She had not been retested for susceptibility after the antitoxin had been given, so we do not know definitely that she had been immunized at all. Two other subjects, shown to be strongly Dick positive, became Dick negative within three days from the time of injection and were still negative eight weeks later. In view of the uncertainty of immunity from this method and the possibility that the antitoxin injected for this purpose may neutralize toxin later given to produce active immunization, it seems best at this time to proceed with the active method as early as possible, if any attempt is to be made to develop protection in a susceptible individual, remembering, of course, that it may take some weeks for immunization to be established. As previously stated, the work of active immunization included a group of nurses and medical students. We shall refer chiefly to these, with a few others whom it has been possible to observe continuously and to retest several times, the data thus obtained appearing to us of more value than a larger group, the subsequent history of which is indefinite or unknown.

To each of a group of fourteen susceptibles thus selected, three injections of toxin were given subcutaneously, the first dose of twenty-five skin test doses, the second of sixty-five and the third of 125. As this dosage was based on the skin test dose as indicated by the more concentrated toxin, the figures would be about three or four times as high in terms of the Public Health Service standard. On retest six weeks later, all the nurses so inoculated were found to be Dick negative. Two medical students and three children were still positive, although there was a marked reduction in the intensity of the reaction in all but one.

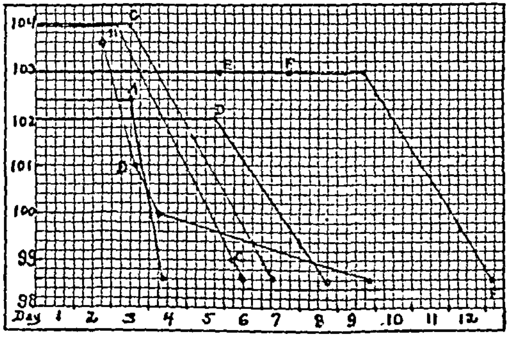

Chart 3.—Antitoxin dosage in patients showing no severe complications: *A*, 40 cc. (II); *B*, 25 cc. (III); *C*, 30 cc. (II); *D*, 25 cc. (II); *E*, 40 cc. (II); *F*, (IV); *G*, 40 cc. (III). Average fever period, 6.4 days.

At this time the plan was adopted of assigning to duty in the scarlet fever ward only those nurses who had been found to be Dick negative either because of natural immunity or as a sequel to toxin injection. One of the nurses, who had been found to be Dick positive and who failed to report for immunization, was inadvertently assigned to the ward for active service. She developed typical scarlet fever shortly after entering on duty and was the only nurse who had scarlet fever during the period of our analysis. No member of the immunized or probably partially immunized group just described has had scarlet fever.

Several nurses, including some naturally immune and some actively immunized, had sore throat with fever during their service in the scarlet fever ward, but all gave clearly negative skin tests made immediately on appearance of symptoms; none had a rash or other clinical evidence of the disease; none desquamated and all returned to duty, apparently well, in a few days.

By contrast, in 1920 four nurses, in 1921 eight, in 1922 seven, in 1923 six and in 1924 five were ill with typical scarlet fever while serving in the ward. Of the thirteen comprising the special group described, in whom the attempt at active immunization was attempted, eleven were available for retest after ten months. Two could not be reached, but are known not to have had any illness resembling scarlet fever. Eight were still Dick negative; three highly susceptible children were still positive, though to a less degree than at the first test, and one nurse, negative at the first retest after inoculation, showed a very faintly positive reaction at this time. It appears to us that even with the imperfect understanding of dosage and method at first used, the procedure has been amply justified. With the more intensive plan now in use and a better distribution of dosage, more satisfactory results from the standpoint both of percentage of successful immunization and of permanence of protection may well be anticipated. We are now employing from four to five doses of toxin, at weekly intervals, beginning with 250 to 500 and increasing each dose to make a total of 20,000 to 30,000 skin test doses, respectively, these, as before, in terms of the stronger toxin.

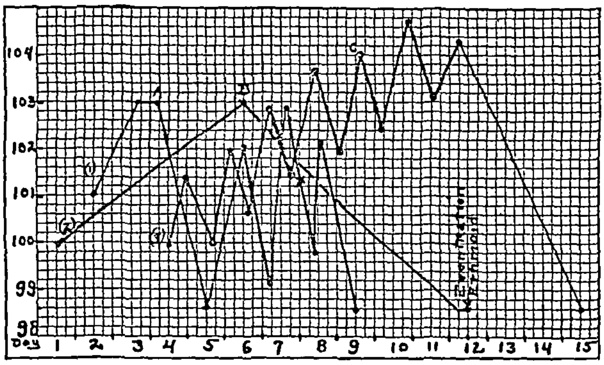

Chart 4.—Antitoxin dosage in cases showing severe complications: *A*, 30 cc. (III); *B*, 10 cc. (II); *C*, 25 cc. (II). Average fever period, 11.5 days. *X*, discharge from right ear.

In connection with the discussion on adjustment of toxin concentration for making the Dick test and on the variation in amount of natural antitoxin in different individuals as indicated by the test, a case of especial interest was cited which we feel warrants more detailed description. The patient gave the largest and most intense Dick reaction we have seen, the local area of erythema being five or six times that found in the average test. A few days after injection of the usual first dose of toxin subcutaneously, that is, twenty-five skin test doses, and following a marked local reaction at the point of injection, there was general malaise of an unusual degree, moderate fever, nausea, headache, edema of the face and hands, and a definite, diffuse, smooth erythema, strikingly like the rash of scarlet fever in color. Later there was desquamation, and albumin was present in the urine temporarily. As the patient had been exposed to scarlet fever a short time before, the possibility of a coincident infection was considered; but, as the Dick test was still positive on repetition six months later, it seems clear that the disturbance was a reaction to a dose of toxin relatively large in proportion to the amount of natural antitoxin present in the body. Only the one dose of toxin was injected in this case.

ANTITOXIC THERAPY

Although we have encountered some difficulty in completely classifying the cases of scarlet fever treated with the specific serum and in placing them in definite groups with reference to the results obtained, certain lessons have been impressed on us, consideration of which may have a part in carrying out the purpose of this analysis. We believe the data recorded below bear out the published opinion of others that a true antitoxic serum has been produced.

The Schultz-Charlton reaction is a graphic means of demonstrating the antitoxic properties of a given serum. Further, in a group of seven susceptibles, a series of intracutaneous injections were made, using two toxins, one injection of a single skin test dose, and four other injections of varying mixtures of toxin and antitoxin, in each subject. In most instances both toxins were used, in two cases only one. It was found invariably that, as the proportion of antitoxin in the mixture was increased, the corresponding local reaction diminished in size or intensity or in both, even to the extent of completely negative Dick tests in most of the group, at the site of injection of the highest antitoxic concentrations.

During the fourteen months from Nov. 1, 1924, to Dec. 31, 1925, inclusive, more than 300 patients with scarlet fever were cared for at this hospital. In our study, a few cases followed under practically the same conditions of observation but not in the hospital are included. Of the entire number, thirty-five patients were given antitoxin. Three of this group are considered apart from the rest, as they were in such condition on admission that no definite or permanent effect from the use of serum could be anticipated. One of these was moribund, with pneumonia following childbirth, and died within about six hours after entering the ward. One patient (case 1, chart 5) was ill with bronchopneumonia when admitted, but recovered, a sharp though temporary drop in temperature having occurred immediately after injection of the antitoxin. The third of this separate group (case 2, chart 5) had had a fracture of the elbow before coming to the ward and was already suffering from a severe arthritis when first seen. The fracture had been considered a part of the arthritis for a number of days before admission and had caused a considerable amount of pain.

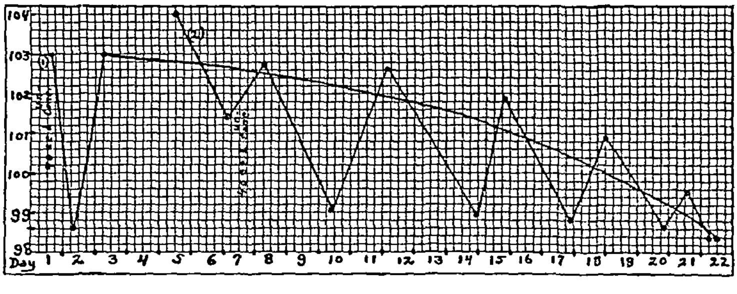

Chart 5.—1, pneumonia well established on admission; 2, arthritis, marked on admission and elbow fractured just before admission.

Charts 1, 2 and 3 represent the patients treated by antitoxin in whom there were no complications of severe degree, while chart 4 shows those who did have serious complications,[2] and chart 5, the patients with pneumonia and arthritis, who recovered and who were just referred to. The letters on the charts represent the points at which doses of antitoxin were given; the vertical numerals are degrees of temperature and the horizontal, days of the disease. The amount of each injection of antitoxin is stated in the legend below the chart. In the case of antitoxin IV, the number of cubic centimeters varied, but the dose always represented sufficient to neutralize at least from 30,000 to 50,000 skin test doses, of the stronger type already mentioned, per cubic centimeter, or a total dose to neutralize at least 250,000 skin test doses.

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[2] Complications included such conditions as otitis, mastoiditis, acute parotitis, ethmoiditis with necrosis, cervical adenitis of very severe degree, pyelitis, arthritis and nephritis.

Examination of the curves in chart 1 shows one case in which the temperature, after approaching normal, later followed a more gradual decline than at first. This patient had an extensive impetigo involving practically the entire body, and only with the clearing up of this condition did the temperature become finally established at the normal level. It will be noted that all but two of the patients represented in chart 1, and one represented in chart 3, were given two doses of antitoxin, and one in the chart 3 group was injected when the temperature had reached normal. We are satisfied that the temperature course subsequent to the various doses of antitoxin as here illustrated is more than a coincidence and must have resulted from the effect of the specific antitoxin administered. In only two instances in the groups shown in the first three charts was the injection not followed by a definite and generally continuous return of the temperature to normal, and one instance in which no effect was observed, although the temperature was high and the other when the temperature was already normal. These two cases are included, however, because we believe they bear on the problem of the relation of antitoxic treatment to the frequency of complications.

Two deaths among scarlet fever patients occurred. One of these patients was moribund, with pneumonia following childbirth, and, as stated, died a few hours after the injection of the antitoxin, and the other, in desperate condition from pneumonia, was admitted and was not given antitoxin. One other patient, ill with pneumonia when the antitoxin was administered, recovered, the temperature course being shown in chart 5, case 1. The comparatively low number of deaths in a series of 300 cases of illness of the type of scarlet fever forcibly emphasizes, by contrast, the well recognized importance of the complications as commonly encountered, and any measure which reduces the number and severity of those complications must be looked on as an important advance.

Study of the patients not treated with antitoxin during those fourteen months reveals an average incidence of complications of 17.7 per cent for the entire series. This percentage varied slightly for different periods, that for November and December, 1924, being 16 per cent; from January to April, 1925, inclusive, 22 per cent; from May to August, 1925, inclusive, 16 per cent, and from September to December, 1925, inclusive, 12.6 per cent. On the other hand, comparison with the condition in the treated patients suggests some interesting data. Including all patients but the two previously mentioned having pneumonia and arthritis, only 10 per cent of those receiving antitoxin developed serious complications. Close examination of the history, physical findings and temperature curves in cases 2 and 3 (chart 4) have convinced us that in these instances also the antitoxin was not given until after the onset of the complicating condition, in the one case a severe adenitis, in the other definite necrosis of the ethmoid. Leaving these two patients out of the group of complications beginning after the administration of antitoxin, the incidence of complications in the treated patients is 3.5 per cent.

The difference in frequency of complications in the treated and untreated patients is the more striking, as the number selected for use of the serum included only those deemed particularly ill, while those developing complications among the group not receiving serum included many of the mildest type.

With regard to the effect of antitoxin in shortening the period of acute illness, we have, of course, used the temperature course as one index. The average duration of fever in the patients in chart 1, most of them having had two doses of serum, was 10.6 days. The second injection was undoubtedly required in many of these instances because of the small amount given at first, a fact which, in our opinion, accounts for an unnecessarily long febrile period. Those in chart 2, including the case of impetigo, had an average of 5.4 days of fever, those in chart 2, 6.4 days, and the group with complications as shown in chart 4, 11.5 days. For all cases in which antitoxin was given, except the two originally excluded, the average fever period was 7.6 days, or excluding also cases 2 and 3, (chart 4), 7.3 days. The average number of fever days for the untreated patients, not including the rises of temperature accompanying many of the later complications, was nine.

While there is, therefore, an apparent gain in the average case in favor of the antitoxin with reference to the shortening of the fever period, we would emphasize again that we believe the course of the temperature following the injections is of more significance than the mere duration of fever. We are the more impressed with the correctness of this opinion when we consider the almost invariable accompaniment of slowing of pulse rate, the improvement in character of the pulse and the favorable alteration in clinical condition, strikingly similar to the changes so familiar in the treatment of diphtheria with the corresponding antitoxin.

The serum reactions have not been more severe than have been seen with diphtheria antitoxin, and the frequency and severity of these seem to be diminishing as advance in concentration methods is accomplished. We would urge caution in the matter of dosage of antitoxin, favoring rather larger doses, possibly twice that now recommended by the manufacturers, given at the earliest possible moment, rather than the smaller doses to be repeated if indicated. We are now using sufficient to neutralize between 750,000 and 1,000,000 skin test doses of toxin. All the antitoxin that we have used has been prepared after the method of Dochez, and a supply of material prepared by Dr. Dochez himself was included. Our series has not been sufficiently large and the conditions of administration have varied to such an extent that we will not venture an opinion as to which special lot of serum has given the best results, and we are now observing a series of cases treated with the most recent type of material prepared by the Dochez method and with concentration by methods similar to that used in the preparation of the diphtheria antitoxin. The results, as far as we can predict at this date, seem to compare favorably with those outlined in the foregoing analysis.

CONCLUSIONS

1. The intracutaneous injection of properly concentrated scarlet fever toxin, after the method of the Dicks, properly controlled by use in groups, is a reliable means of determining susceptibility or immunity to scarlet fever.

2. This method is also frequently of definite assistance in diagnosis.

3. It is possible actively to immunize susceptibles for a considerable period.

4. Care should be used to adjust the dose of toxin for active immunization so as to avoid serious reactions in those who may have an unusually small amount of natural antitoxin, as indicated by an unusually large and intensely positive Dick reaction.

5. There is ample evidence that the serum prepared by the method of Dochez now available for the treatment of scarlet fever possesses true and specific antitoxic properties in effective concentrations.

6. The early use of sufficient amounts of antitoxin apparently reduced the incidence of complications of severe degree.

7. A single large dose of antitoxin will probably prove more satisfactory, from every standpoint, than a small or moderate dose with the possibility of repetition.

8: The intramuscular injection appears to be satisfactory in practically all cases, the intravenous possibly being indicated in critical conditions.

9. We suggest the advisability of testing all patients for sensitiveness to serum before giving the antitoxin, even though workers are not in complete agreement as to the importance of this procedure.

THE NASAL PASSAGES IN LOBAR PNEUMONIA

A CLINICAL AND BACTERIOLOGIC STUDY *

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The frequency of pneumococcal infection of the paranasal cavities in lobar pneumonia was noted by Darling[1] in 1906, when he demonstrated acute inflammatory changes due to that organism in one or more nasal sinuses in more than 90 per cent of a series of pneumonia cases in which he performed necropsies. These findings have been confirmed in a much larger series of necropsies.[2] Darling's belief was that "the portal of entry of the pneumococcus in most instances is an accessory nasal sinus, the mucous membrane of which is probably fitted for the reception of the pneumococcus by an antecedent influenza or rhinitis." Little investigation has been made of the nasal passages and sinuses during the course of lobar pneumonia. In a series of thirty-five cases, Stillman[3] took cultures of the nose by introducing a swab into the nostrils, and in fifteen cases isolated the pneumococcus, though not always of the same type as that recovered from the sputum. No reference has been found in the literature to clinical observations of the nasopharynx in this disease.

In this study, nasopharyngoscopic examinations were made in a small group of cases of lobar pneumonia. Wherever possible, the sinuses were studied roentgenographically. Simultaneously, cultures of the nasal passages were made in an effort to correlate, if possible, the bacteriologic and clinical data thus obtained.

METHODS

The nasal passages were first examined through a speculum. The mucous membranes, which were usually edematous, were then shrunken with pledgets moistened with cocaine (10 per cent solution) and epinephrine (1:1,000). A satisfactory view of the middle and superior meatus was thus obtained. Examination was made with a nasopharyngoscope giving a direct image. In some cases anteroposterior roentgenograms of the sinuses were taken. Cultures were obtained by applying a swab beneath the middle turbinate bone on each side, a sterile nasal speculum being used and contact with the tissues of the vestibule being avoided. The material was thus obtained at the point of drainage of the maxillary, frontal and anterior ethmoid sinuses. The material was injected into the peritoneum of a mouse, and in certain cases cultures were grown on rabbit's blood agar plates (p_H 7.8). The pneumococcus obtained was typed by agglutination with the three serums, and bile solubility was determined. The pneumococcus isolated from the sputum was studied by the same method. Blood cultures were made on all patients.

Eleven patients, four of whom had never had pneumonia, and seven of whom had had the disease in the hospital within the preceding eighteen months, were used as controls. Cultures of the nasal passages were taken, the material being obtained from the middle meatus on each side. In nine of the eleven cases, no pneumococci were isolated from the nose. From two of the patients who had previously had pneumonia, pneumococcus type IV was obtained, which did not correspond to the type that had caused the disease.

In ten cases there was obtained a history of an antecedent rhinitis of from three to fourteen days' duration. In a few instances, the patients had noted frontal or general headaches. In view of the fact that most of these patients were unintelligent and presumably unobservant, this percentage is probably lower than it might have been if the patients had belonged to a more educated and selected group.

The occurrence of rhinitis preceding the onset of pneumonia has been noted by many writers. In Cole's[4] large series, almost 40 per cent of the patients gave a history of coryza antedating the pulmonary infection. Cole says: "When patients are carefully examined, it will be found that, in a surprisingly large number of instances, symptoms referable to the respiratory tract have preceded the actual onset of the disease for a period of a few days to several weeks."

Patients seen early in the disease uniformly showed diffuse hyperemia of the entire mucosa. The mucous membranes of the turbinates were commonly swollen and engorged, so that the breathing space was often greatly reduced. Tiny bleeding points representing superficial ulcerations were seen in some cases. Mucoid discharge along the floor of the nose was occasionally observed. In six cases there was a frankly purulent discharge around certain of the sinus orifices (usually the maxillary, frontal and anterior ethmoid).

While it was hoped that roentgen-ray examination of the sinuses might be obtained in every case, this was not possible in numerous instances on account of the severity of the patient's illness, or the inability of the patient to assume the position necessary for the proper exposure, or for other considerations. In the eight cases in which the sinuses were roentgenographed, seven showed clouding of one or more nasal sinuses. In the

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[1] Darling, S. T.: The Accessory Nasal Sinuses and Pneumococcus Infections, J. A. M. A. 47: 1561 (Nov. 10) 1906.

[2] Darling, S. T.: Personal communication to the authors.

[3] Stillman, E. G.: J. Exper. Med. 35: 7 (Jan.) 1922.

[4] Cole, Rufus, in Nelson: Loose Leaf Medicine 1: 229.

one case in which the sinuses were "clear," the examination was not made until the second day after the crisis. In five of the seven cases, nasopharyngoscopic examination indicated the presence of purulent sinusitis. The two other cases showed hyperemia of the mucous membranes, one with mucoid discharge. It seems highly likely that had lateral and anteroposterior roentgenograms of the sinuses been made in all cases, other instances of sinus involvement might have been recognized.

Table 1.—*Results of Nasopharyngoscopic and Roentgen-Ray Examinations*

Nasopharyngoscopic Examination	Roentgen-Ray Examination	
Purulent discharge	"Clouding" of sinus	5
Hyperemia and mucoid discharge	"Clouding" of sinus	1
Hyperemia	"Clouding" of sinus	1
Purulent discharge	Not made	1
Hyperemia	Sinuses "clear"	1
Hyperemia and mucoid discharge	Not made	2
Hyperemia	Not made	4
Not made	Not made	1
Total..		16

In every case during the acute stage of the illness, the pneumococcus was isolated from the middle meatus of the nose. The pneumococcus invariably corresponded in type to that found in the sputum and in the blood. During convalescence, pneumococci could not be isolated from the middle fossae of the nose in those instances in which cultures were made.

In view of the regularity with which the pneumococcus was recovered from the nasal passages during the active stage of the disease, it seems likely that nasal culture may offer a method for the isolation and typing of the organism in the occasional case in which no sputum is obtainable.

COMMENT

Since Darling's communication in 1906 presenting his necropsy studies of the paranasal sinuses in lobar pneumonia and other pneumococcal infections, few data have been accumulated bearing on this subject. If Darling's surmise is substantiated that the portal of entry of the pneumococcus may be a paranasal sinus, the route by which the organism reaches the lung, whether bronchial, lymphatic or blood vascular, is not known. Sinus discharges might go directly down the bronchial tree, and the work of Blake and Cecil[5] shows that pneumonia can be produced by intratracheal injection of minute doses of pneumococci. The studies of

Table 2.—*Findings in Sixteen Cases of Lobar Pneumonia*

Case	History of Preceding "Cold"	Nasopharyngoscopic Examination	Roentgen-Ray Examination of Sinuses	Nasal Cultures: During Disease	Nasal Cultures: During Convalescence	Sputum Culture	Blood Culture	Lobe of Lung Involved	Comment
1	"Cold" several days; nasal discharge (right); frontal headache (right)	Moderate diffuse hyperemia; antrums clear on transillumination	Not made	Pneumococcus type I	Not made (death)	Pneumococcus type I	Pneumococcus type I (500 colonies per cc.)	Left upper Left lower Right middle	Patient died
2	"Cold" for 1 week	Marked diffuse hyperemia; mucoid discharge	Not made	Pneumococcus type I	No pneumococci	Pneumococcus type I	Negative	Left upper	
3	No note of "cold"	Diffuse hyperemia	Not made	Pneumococcus type IV	No pneumococci	Pneumococcus type IV	Pneumococcus type IV	Left upper	
4	Severe "cold" 2 weeks nasal discharge; frontal headache	Mild hyperemia; pus draining from both middle meatuses; antrums dark on transillumination	Clouding of antrums	Pneumococcus type I	No pneumococci	Pneumococcus type I	Pneumococcus type I	Right upper Right middle	Nasopharynx became normal during convalescence
5	No note of "cold"	Not examined during illness	Not made	Pneumococcus type I	No pneumococci	Pneumococcus type I	Negative	Right lower	Nasopharynx normal in convalescence
6	No note of "cold"	Hyperemia; crusted discharge; mucopurulent discharge in adenoid region	Clouding of right antrum	Pneumococcus type IV	Not made	Pneumococcus type IV	Negative	Left lower	
7	"Cold" several days	Purulent discharge from left side	Clouding of left antrum	Pneumococcus type IV	Not made	Pneumococcus type IV	Negative	Right middle Right lower	
8	"Cold" for 3 days	Marked diffuse hyperemia; mucopurulent discharge from middle meatus of both sides	Clouding of both antrums	Pneumococcus type I	No pneumococci	Pneumococcus type I	Negative	Right lower Left lower	
9	"Cold" for 10 days	Diffuse hyperemia; purulent discharge from left middle meatus	Not made	Pneumococcus type IV	No pneumococci	Pneumococcus type IV	Negative	Right lower Right middle	
10	"Cold" for 1 week nasal discharge	Slight diffuse hyperemia	Not made	Pneumococcus type II	Not made (death)	Pneumococcus type II	Pneumococcus type II (75 col. per cc.)	Right lower	Patient died
11	"Cold" for several days	General hyperemia	Clouding of both antrums	Pneumococcus type II (atypical)	Not made	Pneumococcus type II (atypical)	Negative	Right lower	
12	No "cold"	Diffuse hyperemia	Sinuses clear	Pneumococcus type I	Not made	Pneumococcus type I	Negative	Right upper Right lower	Nasopharyngoscopic and roentgen-ray examinations made 2 days after crisis
13	"Cold" for several days with headache	Marked general hyperemia	Not made	Pneumococcus type IV	Not made	Pneumococcus type IV	Pneumococcus type IV (2 col. per cc.)	Right upper Right lower	
14	No note of "cold"	Marked general hyperemia; mucoid discharge, especially on the left side	Clouding of left antrum	Pneumococcus type I	No pneumococci	Pneumococcus type I	Negative	Right lower	
15	"Cold" for 4 days	Slight diffuse hyperemia with mucoid discharge	Not made	Pneumococcus type IV	Not made	Pneumococcus type IV	Negative	Left lower	
16	No note of "cold"	Diffuse hyperemia; purulent discharge from both middle meatuses, especially the right	Clouding of antrums	Pneumococcus type IV	Not made	Pneumococcus type IV	Negative	Left lower	

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[5] Blake, F. G., and Cecil, R. L.: J. Exper. Med. **31**: 445 (April) 1920.

Mullen[6] indicate that in the rabbit, at least, lymphatic drainage of the maxillary and frontal sinuses is quite direct by way of the submaxillary and deep cervical nodes, to the cervical lymph ducts and the great veins. Carbon suspensions injected into the antrums could be traced along this course. Mullen's investigation was prompted by his observation of the frequent coincidence of sinus infection and bronchiectasis; indeed, he states that he has seen no cases of nonobstructive bronchiectasis without an accompanying sinusitis. It is a matter of common experience to observe the coincidental occurrence of acute sinusitis and bronchopneumonia, in which the history would indicate the sinusitis as the prior infection, and in which the sputum and nasal discharges contain the same offending organism. While no attempt is made to draw any analogies between the two types of pneumonia, the occurrence of acute sinusitis as an accompanying infection in both diseases is of interest and of possible significance.

It is quite impossible to determine from existing data whether the paranasal sinusitis, when present, precedes or develops, *pari passu,* with the lobar pneumonia. The possible rôle of acute pneumococcal infection of the sinuses in the pathogenesis of lobar pneumonia cannot be considered until its temporal relationship to the pneumonia is settled. Suggestive, perhaps, is the history elicited from a considerable percentage of patients of a "cold" preceding the onset of the pneumonia; though how many of these preliminary "colds" are actually cases of pneumococcal sinusitis is not known, since rhinitis is too common a malady to admit of such exhaustive study as a routine. Darling states that, in the cases he studied, the age of the sinus infection was appreciably greater than that of the lung or meningeal lesion, though he does not give his criteria for drawing such conclusions. Whatever may be the etiology of the antecedent "cold," as soon as attention is called to the patient by the acute symptoms of the pulmonary infection, one finds in a certain percentage of cases (a figure varying probably with the degree of care taken in studying the patient) definite clinical, roentgenologic and bacteriologic evidence of acute pneumococcal sinusitis. This extrapulmonic infection appears to occur sufficiently frequently to receive more than a casual consideration. Even if it plays, contrary to Darling's belief, no part in the primary disease process, the evidence indicates that it is a common and early complication of lobar pneumonia.

The series of cases here reported is too small to warrant the drawing of definite conclusions. The results are sufficiently striking, however, to encourage further investigation of this phase of the disease.

SUMMARY

1. In a series of sixteen cases of lobar pneumonia, pneumococci of corresponding type to those found in the sputum were isolated from the middle fossae of the nose in every case.
2. The nasal passages in fifteen of the sixteen cases were examined with the nasopharyngoscope; of these, all showed hyperemia of the mucous membranes, and six had signs of acute suppurative sinusitis. In eight cases, anteroposterior roentgenograms of the sinuses were made; in seven cases, clouding of one or more of the sinuses was observed.
3. In this small series of cases, acute pneumococcal sinusitis was a frequent accompaniment of lobar pneumonia.

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[6] Mullen, W. V.: Tr. Am. Laryngol., Rhinol. & Otol. Soc., 1921, p. 294.

PUERPERAL FEVER

II. STREPTOCOCCUS HEMOLYTICUS TOXIN AND ANTITOXIN *

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In June, 1925, we[1] reported the presence of a toxic substance in the Berkefeld V filtrate of broth cultures of *Streptococcus hemolyticus* isolated from the blood of patients with puerperal fever. Intracutaneous injections of the filtrates (sterile) produced inflammatory reactions, which varied in degree and incidence with the dilution of the filtrate and the presumable immunity of the patient. There was a definite latent period between injection and reaction.

The present report concerns experiments with the toxic substance in the filtrate, which were carried out in order to determine further characteristics of a toxin and the specificity of the organism. Strain A of our puerperal streptococci and the Berkefeld V filtrate of its cultures were used exclusively in the study.

HEAT LABILE PROPERTY

One cubic centimeter of the 1:100 dilution of the filtrate was heated in a water bath at 70 C. for fifteen minutes and a similar amount at 90 C. for sixty minutes. Intracutaneous tests were made on five pregnant women (at term) known to be strongly positive to the 1:1,000 dilution. In three, the tests were negative, while in one, it was slightly positive and in another positive. The positive reactions can be explained by a hypersusceptibility of the two patients to the proteins in the heated filtrate. The negative tests were due to the destruction of the toxic substance in the filtrate by heat.

NEUTRALIZATION

The immune serum was prepared in a rabbit by repeated intracutaneous injections of the undiluted filtrate. The initial dose was 5 cc., gradually increased until 13 cc. was given. Twenty-five injections were given at intervals of three days. A control serum was obtained from a nonimmunized rabbit. Equal amounts of the diluted filtrate (1:500 and 1:100) and of the immunized and nonimmunized serum were mixed and allowed to incubate for one hour at 37.5 C. Ten patients (pregnant women at term) who gave a positive test with the 1:1,000 dilution of the filtrate were inoculated intracutaneously with 0.2 cc. of the foregoing mixture. Thus, each patient received four injections, the 1:100 filtrate plus immune serum, 1:100 plus (nonimmune) control serum, and the 1:500 filtrate with similar combinations. In the control tests, strongly positive reactions occurred in twenty-four hours, while in those with the immune serum no reaction occurred except in one having a positive and in two only slightly positive reactions. Therefore the toxic substance in the filtrate was neutralized by the immune serum (antitoxin) with the stated exceptions, which were probably due to a very slight amount of toxin remaining active for hypersusceptible patients from incomplete neutralization by insufficient antitoxin.

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[1] Lash, A. F., and Kaplan, Bertha: Puerperal Fever: Streptococcus Hemolyticus Toxin, J. A. M. A. 84: 1991-1992 (June 27) 1925.

PRECIPITIN TESTS

Equal amounts of the diluted serum and the centrifugalized, clear, supernatant fluid of forty-eight hour dextrose broth cultures were mixed and incubated at 37.5 C. dry heat for from twelve to fifteen hours, and readings were made after two and fifteen hours. The results are given in the accompanying table.

Results of Precipitin Tests

Strains of Streptococcus H	Serum of Rabbits Injected with— Toxin Intracutaneously	Toxin and Strept Hem Intracutaneously	Toxin Intravenously
Puerperal A	160	320	160
Puerperal A^1 *	80		...
Puerperal B	160	80	80
Puerperal C	0	40	80
Erysipelas 1	40	40	80
Erysipelas 2	80	.	..

* Puerperal A^1 after passage through a rabbit

Although the results of the precipitin tests demonstate a nonspecificity of the strains of *Streptococcus hemolyticus* isolated from puerperal fever, yet they indicate a relationship between these strains.

ACTIVE IMMUNIZATION

Two forty-eight hour blood-agar slants of the puerperal strain A suspended in sterile physiologic sodium chloride solution were found to be the lethal dose in a rabbit (800 Gm.) after intravenous injection, in twenty-four hours. Necropsy revealed no gross pathologic changes, but cultures of the heart blood and peritoneal fluid (normal amount) yielded hemolytic streptococci. A rabbit (800 Gm.) was immunized with the undiluted toxin produced by the organisms isolated from this rabbit. Four injections were given intravenously in 9 cc. doses at intervals of three days. One week after the last injection, two forty-eight hour blood-agar slants of the puerperal strain A were injected intravenously. The animal was not affected and, when killed one month later, no pathologic changes were found.

In a series of rabbits, the virulence of *Streptococcus hemolyticus* was studied. Two forty-eight hour blood-agar slants injected intravenously were found to be the lethal dose. Three cubic centimeters of the toxin killed rabbits in twenty-four hours when given intravenously. One half of a forty-eight hour blood-agar slant combined with 2 cc. of the toxin injected intracutaneously proved fatal to two rabbits (800 Gm.). However, there was a great variation in the amounts of the organisms and the toxin given separately or combined necessary to kill rabbits of the same size. Also in the female rabbit no specific or selective property of the puerperal *Streptococcus hemolyticus* was observed. The nonspecificity of *Streptococcus hemolyticus* in the chronic infection of the fallopian tubes and cervix was demonstrated in a recent study.[2]

CONCLUSION

The toxic substance in the sterile Berkefeld V filtrate of puerperal *Streptococcus hemolyticus* broth cultures is a toxin because:

1. There is a latent period between injection and reaction.
2. The toxic substance in the filtrate is heat labile.
3. It is neutralized by immune serum (antitoxin) and not by nonimmune serum.
4. The precipitin tests further show the development of immune bodies by the toxin.
5. The repeated injections of the toxin produced sufficient antitoxin to protect rabbits against the lethal dose of the puerperal *Streptococcus hemolyticus*.

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[2] Barrett, C. W., Lash, A. F., and Pilot, Isadore: A Study of Streptococci from Chronic Infection of the Cervix Uteri and Fallopian Tubes, Am. J. Obst. & Gynec. 9:797 (June) 1925.

LONG STANDING ANURIA

CERTAIN ASSOCIATED PHENOMENA

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Recently I[1] reported a case of anuria in which there was no evidence of urine having been passed for thirty days. Until this case was seen it had never been brought to my attention that a complete suppression of urine could possibly exist for more than five or ten days. Every day, therefore, not only the attendants at the bedside, but also the physicians in charge expected dissolution. I have since found other cases in the literature and included in the report a collection of those having a duration of from twenty to twenty-nine days, and some of even longer duration. However, I have been unable to find a report of a case due to recurrent carcinoma with such a history.

The patient was a woman, aged 64, who had had a polypoid type of cervical growth for years, which was finally removed with the uterus by vaginal hysterectomy. From a careful history of the case there was no reason to think that recurrence of the carcinoma ever attacked the vesical, vaginal or rectal wall, but both history and necropsy definitely pointed to the recurrence in the lymphatics and tissues on each side of the cervix; that is, around the ureters just before their entrance into the bladder. Pressure symptoms of a pelvic mass arose on the right side at least five months before the onset of anuria, and at necropsy both the mass and the hydronephrosis were larger on this side. The symptoms of intoxication, marked by frequent vomiting, began at least two months before anuria developed. Complete occlusion of the ureters, there is reason to believe, was very gradual, and occurred first on the right side, renal function being assumed partially by the remaining kidney, up to the time when the left kidney was likewise occluded, on or before Aug. 22, 1923, the date alleged as the beginning of complete anuria.

This interpretation coincides with the dictum of authorities,[2] which has generally been accepted, that longstanding obstructive anuria may occur only in those who have been living through the function of one kidney. Thus, the prerequisites for a longstanding obstructive anuria seem to have been fulfilled in this case. The gross appearance of the recurrent masses entirely compressing the ureters for several centimeters on each side seems ample evidence to justify this interpretation. As a rule, both the physiologist in his laboratory and the clinician at the bedside are in perfect accord that complete anuria of only a few days' duration is extremely perilous to life. There is definite variability, apparently, between the tolerance of different species of animals to renal intoxication; for, according to Amos,[3] guinea-pigs after unilateral ureteral obstruction lived, on an average, nineteen and one-half days, whereas rats, under the same conditions, lived, on an average, fifty-two days; but in each species when "both ureters were tied the animal died in two days." Caulk[4] says: "I have never seen an animal with both ureters simultaneously ligated which did not die within four or five days." By two stage double nephrectomy, however, Vitzou[5] claims that he has kept animals alive for as high as from 146 to 164 hours by no other measure than the injection of blood serum from renal veins of healthy animals of the same species. This he interprets as due to the internal secretion of the kidneys. Allen, Scharf and Lundin[6] report that whereas dogs die in two days with double nephrectomy, sheep and goats live for two weeks. Papin and Chabanier,[7] however, refer to clinical anuria, following nephrectomy of the only kidney in man (about ten cases) death occurring "about the tenth or twelfth day." I have collected from American literature records of three clinical cases, mentioned below, each patient having lived more than ten days after the removal of the only kidney.

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[1] Myers, W. A.: Obstructive Anuria. Report of a Remarkable Case, J. A. M. A. 85:10-13 (July 4) 1925.

[2] Hutchinson, J.: Suppression of Urine as a Consequence of Renal Calculus, Lancet 2:1-3, 1874. Fowler, E. P.: Suppression of Urine, New York, William Wood & Co., 1881. Legueu, F.: De l'anurie calculeuse, Ann. d. mal. d. org. gen.-urin. 13:865-910, 1895.

The nearest approach we have clinically to the experimental conditions of bilateral ureteral obstruction are those cases collected by Bland,[8] sixty-one in all, in which both ureters were accidentally tied at operation. The anuria of these surgical cases was terminated as a rule within ninety-six hours, so that we have found no cases of long standing anuria among them. In the event of a surgeon accidently tying both ureters in patients presumably not suffering from renal intoxication, the shock of a difficult operation added to the anesthesia, and the instantaneous injection of all urinary toxins into the organism, consistently results fatally in a very few days unless at least one ureter is released mechanically. If, however, the patient is accustomed to renal poisons, at the time of operation, as in the cases in which diseased solitary kidneys have been removed, long standing anuria may result. Apart from the cases of long standing anuria, surgically produced, it is valuable to leave the laboratory and operating room, and search the literature for cases of anuria before surgery was generally utilized, or in present day cases in which its proffered hand of help, as in our own case, has been refused. Among the cases treated nonsurgically, we find reported those who suffered as a rule from very gradual renal intoxication. To one unfamiliar with the condition of long standing anuria, the records collected below may seem almost incredible. Yet many of the cases are reported with records quite exact, and observations apparently quite accurate. Furthermore, the authors are in many instances widely known, and are of accepted veracity.

In this communication I prefer to neglect the cases in the literature, which are numerous, with an anuria of less than ten days, and record the following collection, no doubt incomplete, of total anuria with a duration of from ten to nineteen days. A recent collection of cases in excess of nineteen days was given in my original report.[8a] In the present collection, there are cases representing "prerenal," "renal" and "postrenal" anuria. Of anuria cases apparently complete, I have found seven cases of ten days;[9] eight cases of eleven days;[10] eight cases of twelve days;[11] ten cases of thirteen days;[12] three cases of fourteen days;[13] five cases of fifteen days;[14] six cases of seventeen days;[15] two cases of eighteen days,[16] and two cases of nineteen days.[17] There are doubtless other cases reported or unreported but familiar to the reader, which I have failed to incorporate in this collection of fifty-one cases. The foregoing cases will at least illustrate the point that anuria in man is possible of being complete and of long duration, and apparently may be definitely longer in the clinic than in the experimental laboratory with present methods of study.

If these reports are accurate, we are led to search for some explanation for the tenacity of life in such a prolonged uremic poisoning. Such cases of chronic uremia may possibly be explained on one or more of the following derangements of physiologic processes:

1. In long standing anuria there may be a lowered metabolism.
2. In long standing anuria, natural protective forces develop a defense against the peril of deranged metabolism.
3. In long standing anuria, the nitrogenous products may be eliminated vicariously.

LOWERED METABOLISM IN TOTAL ANURIA

I have been unable to find in the literature a case of total long standing anuria with careful reports of basal metabolic rates. The clinical description of chronic uremia from total renal insufficiency of long duration is distinctive. Such authors as Sinkler[18] and Senator[19] indicate that, in the typical cases, a chronic uremia develops in man a condition approaching hibernation found in animals. Describing the metabolic processes of his case of "hysteric anuria," Charcot said, the vital "fires are covered with ashes." Catabolic processes apparently do not break down the nitrogen products or oxidize with even normal rapidity carbohydrates and fats. In the absence of exact quantitative metabolic studies, it seems fair to rely on the clinical triad of hypometabolism; namely, reading of pulse, temperature and respirations. In this type of chronic uremia, respirations may not be high, Fowler putting the average at about 18, but they may be as low as 15, 12, 8 or 6 per minute,[20] or even as low as 4 per minute.[1] In long standing cases uncomplicated by fever, the pulse is not commonly increased. Bradycardia may even prevail;[21] 70 or lower, even 40 has been reported.[19] If unassociated with infection, the temperature is rarely high and may be frequently normal or low,[21] 97.6 F., 92.8 F.[1] or 86 F.[19] My own case confirms the foregoing throughout, and the reduced metabolism seems a rational explanation of the interesting blood urea nitrogen studies in my case. At first blush, it would seem that anuria of many days would have accumulation of nitrogenous bodies in the blood, extremely high. Judging from the urea nitrogen studies in my case, however, this urea nitrogen increased only 30 per cent in the last fifteen days of anuria—from 130 to 169 mg. per hundred cubic centimeters of blood. Anuria of much shorter duration has been recorded at much higher figures of urea nitrogen retention in the blood, but such cases, it will be found, were types of relatively acute uremia compared to the case being discussed, and may possibly be explained on a basis of reduced vicarious elimination, to be discussed below. Not only are the pulse, respiration and temperature quite characteristically not increased, but the drowsiness reduces the bodily activity to the minimum. In the absence of exact basal metabolic rates, it would seem that certain cases of long standing anuria may, from a metabolic view, be likened to vegetative types.

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[3] Amos, B.: The Effects of the Ligature of One Ureter, J. Path. & Bacteriol. **10**: 265, 1905.

[4] Caulk, J. R.: Calculous Anuria, Atlantic M. J. **27**: 401, 1924.

[5] Vitzou, A. N.: Experimental Researches on the Internal Secretion of the Kidney, Bucharest, 1902.

[6] Allen, F. W.; Scharf, Rudolph; and Lundin, Harry: Clinical and Experimental Renal Deficiency, J. A. M. A. **85**: 1698 (Nov.) 1925.

[7] Papin, E., and Chabanier, H.: Etude clinique, physiologique et anatomique de deux cas d'anurie, J. d'urol. **8**: 335, 1919.

[8] Bland, P. B.: The Treatment of Accidental Occlusion of the Ureter, Atlantic M. J. **27**: 341-351 (March) 1924.

[8a] Myers (footnote 1). Farnsworth (footnote 27).

[9-17] References 9-17, inclusive, will be found in the author's reprints. They are omitted from The Journal on account of lack of space.

[18] Sinkler, W.: Suppression of Urine of Long Standing Without Symptoms of Uremia, Tr. Coll. Phys., Philadelphia **18**: 121, 1891.

[19] Senator: Diseases of the Kidneys, in Nothnagel's System, American edition, Philadelphia, W. B. Saunders Company, 1905.

[20] Senator (footnote 19). Frank (footnote 15).

[21] Fowler (footnote 2).

PROTECTIVE FORCES IN TOTAL ANURIA

The study of lowered metabolism does not alone explain why one could survive for days without any urinary excretion. Many a patient has succumbed to uremia with much less urea nitrogen concentration in the blood stream than occurred in the cases reported. On the other hand, many cases of renal insufficiency with or without anuria, with much higher nitrogenous products in the blood, are reported. Scholl and Foulds[22] report a fatal case of relative anuria of thirteen days, with total anuria of eight days, in which the blood urea at one time was 527 mg. per hundred cubic centimeters. Mosenthal and Lewis[23] report a case of polycystic kidney in a business man with renal insufficiency without anuria, who was alleged to be quite comfortable with his routine business matters for a period in excess of a year in spite of a blood urea nitrogen around 118 mg. per hundred cubic centimeters. Sweet[24] has indicated that not all renal insufficiency cases are absolute suppression of urine cases—that the protective mechanism against renal poison is identical in the "specific" or absolute anuric cases and in the "essential" anuric cases, in which certain low specific gravity urine may be passed. The patients in each type are poisoned and, as he has indicated, may die suddenly or may live a number of days. Each type, amply proved clinically and experimentally, may have not only marked nitrogen retention but also acidosis of high grade, the latter evidenced by high inorganic phosphorus and low carbon dioxide combining power of the blood plasma. Peculiarly enough, also, evidence has accumulated both by experimental and by clinical study that renal insufficiency of high grade may be associated with neither hypertension nor edema. Marked sodium chloride retention probably does not occur, and vomiting commonly present in long standing anuria may regulate the blood chlorides, as it apparently does in cases in intestinal obstruction.[25]

It seems now quite certain that, with absolute renal insufficiency in man and animals, marked nitrogen retention and acidosis consistently results. Likewise, careful study of the literature on anuria indicates that a very slow urinary intoxication seems a prerequisite for long standing vital resistance to the cumulative chemical and physical changes in the blood and the tissues. Feeding food with high sodium chloride and nitrogen producing content apparently hastens death.

One of the protective forces against renal intoxication has been thought to be the internal secretion of the kidney. In most of the clinical cases of long standing anuria there is renal tissue with circulation intact, and it is conceivable that internal secretion of the kidney is a factor. However, certain notable cases in American literature militate against this theory, as in Polk's[26] case of anuria of eleven days, Farnsworth's[27] of twenty-three days, and Gordon's[28] of twenty-seven days it was shown by necropsy that the only kidney had been removed, in each case a pathologic one. This would rather lead one to think that bodily tissues, other than renal, by meeting the gradually increasing intoxication, had built up natural defenses to protect against any renal catastrophe, with its lethal processes.

In the case that I reported, the patient, according to the history, had been definitely intoxicated for weeks before anuria developed and was apparently definitely protected, as it were, against these processes before the crash of anuria developed. For such a biochemical battle, the organism must be forewarned in order to be forearmed. How shall we know of the mechanism of this defense until we know what is the lethal agent? Perhaps a true antitoxin is formed; it takes time for this type of protection to be established, either experimentally or clinically. Could we produce in the sheep or goat a chronic nephritis analogous to that found in man, subsequent total renal extirpation might presumably produce anuria identical in duration to that found clinically, and opportunity thus be created for study of these extremely important protective forces.

VICARIOUS ELIMINATION

A typical case of anuria, such as mine or many others recorded, may conceivably present a lowered metabolism; there may even have been gained a prolonged tolerance to the deranged metabolic processes that usually kill in a very few days, and yet not all cases of chronic total anuria may be explained without an additional factor. The literature of our fathers more than of today explained the life in prolonged anuria on the basis of "vicarious elimination." By this term many older clinicians held, and modern students have not disproved, the hypothesis that in these cases poisons were eliminated, and processes of adaptation were carried on, by other than renal organs.

In a certain percentage of reported cases of total anuria of long duration in which careful studies have been made, there is evidence of compensatory elimination by other organs, notably the skin, gastro-intestinal tract and the lungs. Perspiration in long standing anuria is noted very frequently; some patients sweat freely, others less. It is possible, according to von Noorden,[29] to excrete as high as 3 Gm. of nitrogen daily through the skin.

We cannot neglect the possibility of the lungs being a means of compensatory elimination of nitrogen. Certain writers speak of the "urinous," "ammoniacal" or "foul" odor to the breath. Roberts believes that such elimination does not occur. Certainly, no urinous or ammoniacal odor was noted in my case, though the breath was definitely foul.

Wolff[30] has produced hydramnion in pregnant rabbits by ligating both ureters, and it is his opinion that the amnionic sac and the renal pelvis of the hydronephrotic kidney act in identical function as reservoirs for vicarious nitrogenous elimination. Necropsy showed that our patient had 500 cc. of pleural fluid; this may have acted as a safety reservior for partial elimination of the toxic agents.

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[22] Scholl, A. J., Jr., and Foulds, G. S.: Prolonged Anuria, J. A. M. A. **76**: 368 (Feb. 5) 1921.

[23] Mosenthal, H. O., and Lewis, D. S.: A Comparative Study of Tests for Renal Function, J. A. M. A. **67**: 933-938 (Sept. 23) 1916.

[24] Sweet, J. E.: Some Theoretical Aspects of the Problem of Anuria, Atlantic M. J. **27**: 405 (April) 1924.

[25] Haden, R. L., and Orr, T. G.: Use of Sodium Chloride in the Treatment of Intestinal Obstruction, J. A. M. A. **82**: 1515 (May 10) 1924.

[26] Polk, W. M.: Case of Extirpation of a Displaced Kidney, New York M. J. **37**: 171, 1883.

[27] Farnsworth, A. H.: Complete Anuria, J. A. M. A. **85**: 1420 (Oct. 31) 1925.

[28] Gordon, S. C., cited by Howe, H. P.: An Unusual Case of Suppression of Urine, New York M. J. **84**: 1186, 1906.

[29] Cited by Brown, W. L.: The Factor in Uremia, Proc. Roy. Soc. Med. **16**: 43, 1923.

[30] Wolff, B.: Ueber experimentelle Erzeugung von Hydramnion, Arch. f. Gynäk. **71**: 224-257, 1904.

The gastro-intestinal tract, however, is probably the most frequent and efficient means of vicarious nitrogenous elimination in anuria. Vomiting may be one of nature's protective mechanisms in anuric uremia. Charcot's patient vomited daily, and his analysis, though made with rather unrefined methods, showed urea present in the vomitus, so that he taught that the stomach was one of the eliminating organs in cases of anuria. It has been asserted that the stomach may even assume the rôle of concentration of nonprotein nitrogen products of the blood. I have never been able to confirm this. However, Canti [29] in one case found the blood urea 300 mg. per hundred cubic centimeters but the vomitus 600 mg., and von Noorden [29] believes that the gastro-intestinal tract is able to eliminate as much as 8 Gm. of nitrogen daily.

The excretory function of the stomach may be an important factor in the control of renal acidosis, it having been shown that vomiting is at times associated with a tendency to alkalosis, and this tendency to combat renal acidosis may possibly be of extreme value in long standing anuria. Stomach excretions, like urinary excretions, are acid, and it is conceivable that vicarious elimination of acid bodies through excessive vomiting may avert a fatal renal acidosis.

Even the salivary glands may excrete a certain amount of nitrogen, profuse salivation being mentioned in certain cases of long standing anuria. Hench and Aldrich [31] have shown that excretion of urea nitrogen through saliva is in definite proportion to the concentration of the blood.

While vicarious elimination alone might maintain life in the face of overwhelming intoxication, it is obvious that unless fluids were given freely, or some organ of excretion actually concentrated, very definitely, dehydration would exceed the detoxication, and the toxic products would conceivably reach very high percentages. If, however, as has been asserted, the stomach may concentrate its elements, the nitrogenous bodies of the blood may not, of necessity, be markedly increased as the anuria persists. While certain cases in the literature are marked by excessive vomiting, others are reported with complete absence of such compensatory elimination through vomiting, perspiration, diarrhea or salivation even in prolonged anuria. My patient vomited daily during the period of anuria, and was alleged to have done so for weeks previously, and had at times during the observation spontaneous profuse sweats.

On the basis of von Noorden's data, given above, of the possibility of the skin and gastro-intestinal tract eliminating as much as 11 Gm. of nitrogen daily, the equivalent of approximately 23 Gm. of urea might thus be eliminated each twenty-four hours with renal function in absolute abeyance. This is of extreme interest in the study of the tenacity of life in long standing anuria.

COMMENT

How long is total anuria compatible with life? Certain authors believe that this may depend on a number of factors, among which are those mentioned above; namely, the lowered metabolism, gradual onset, and compensatory elimination. My patient had a cancer that was destroying life. Certain cases reported, in which there was no primary death-producing illness, but anuria of long standing, lead one to believe that the organism when given fair warning, and sufficiently gradual intoxication, may fortify itself against enormous poisoning. Scarpini [32] in the discussion of his case, in which there was alleged to have been a complete urinary suppression of several months' duration, apparently believes that metabolism compatible with life in total anuria may, under ideal conditions, be "carried on indefinitely."

Hypothetically, this may be possible. However, a much wiser working point of view for the therapeutist is that suppression of urine at any stage is dangerous; after five days it is liable to end fatally at any moment, and a duration of ten days or more is extremely rare. Even after this, however, life may not be despaired of, as Minningham [33] reports a clinical case of total anuria of twenty-three days in which the patient lived and resumed renal function after nephrotomy.

Shukert Building.

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[31] Hench, P. S., and Aldrich, Martha: Salivary Index to Renal Function, J. A. M. A. **81**: 1997 (Dec. 15) 1923

[32] Scarpini, V.: Il saugere nell anuria istericu: considerazione sul l'uria e sui leucociti eosinofili, Atti d. r. Accad. d. fisiocrit in Siena **16**: 179-185, 1904.

[33] Minningham, W. D.: A Case of Total Anuria of Twenty-Three Days Followed by a Perfect Recovery, J. M. Sc. New Jersey, 1908, pp. 566-568.

CARBON MONOXIDE POISONING

GRADUAL, CUMULATIVE EFFECTS IN YOUNG CHILDREN, WITH REPORT OF A FATAL CASE *

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Cold weather and the dark days of winter mean for our city population an increasing use of illuminating gas for warmth and light. Frequently, gas heaters and flexible gas tubing are bought at second hand without regard to leaks or imperfections. Such heat as the house affords is precious: the windows, which may have been kept open in early fall, are closed the greater part of the time night and day.

This is the situation that makes for a seasonal increase in the risk of carbon monoxide poisoning, acute and chronic, for persons of all ages, aside from the year-round liability of adults whose occupations have to do with furnaces, coal mining, gas manufacture or garage exhaust. At any time in the year an ordinary gas jet for illumination may be found to be leaking: in winter, with closed windows, it may easily become a menace to life.

In city houses there is a certain hazard in the incomplete combustion of coal in stoves, but the chief danger lies in the escape of illuminating gas. This, in the form of "water gas," contains about 30 per cent of carbon monoxide. When breathed even in small quantities in the presence of oxygen, carbon monoxide will combine with the hemoglobin of the blood corpuscles to form a relatively stable compound. This is due to the greater affinity of carbon monoxide for hemoglobin, which is considered to be from 220 [1] to 250 [2] times as great as oxygen.

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[1] Nicloux, M.: L'instabilité de l'hemoglobine oxycarbonée, Presse méd. **25**: 153 (March 15) 1917.

[2] Henderson, Yandell: Carbon Monoxide Poisoning, J. A. M. A. **67**: 580 (Aug. 19) 1916.

Exposure to large amounts of the gas results in rapid displacement of oxyhemoglobin, which is easily dissociated, and a saturation of the blood with carbon monoxide. By the failure of oxygenation of the body cells there ensues a tissue asphyxia, especially of the brain, which results in unconsciousness and finally in death.

If a victim of gas poisoning is brought into the open air while yet alive, the carbon monoxide hemoglobin is only very slowly dissociated: for several hours blood cells of a characteristic cherry red may circulate uselessly with their load of carbon monoxide. Inhalations of oxygen with 5 per cent carbon dioxide will assist the dissociation.[3] Some have believed that besides the asphyxia there may be a direct toxic action of carbon monoxide on the body.[4] This view is disproved by the experimental work of Haldane.[5] It is probable that illuminating gas owes part of its toxicity to other constituents;[3] this added factor is a more powerful respiratory stimulus than pure carbon monoxide.

The acute cases of gas poisoning are dramatic and obvious. More difficult of detection is the gradual and insidious type of poisoning, which results from the continuous or repeated exposure to a small quantity of carbon monoxide. A certain amount of the hemoglobin is fixed by the gas inhaled and, before this is dissociated, a further exposure raises the level of carbon monoxide hemoglobin in the blood. According to Gettler,[6] adults may accumulate up to 5 per cent of carbon monoxide in the blood without symptoms. Glaister[7] remarks: "It must not be forgotten that carbon monoxide poisoning, owing to its cumulative action, may occur even in the open air." Henderson and Haggard[8] have summed up the cumulative effect of breathing small amounts of gas over a period of time:

> When the time is measured in hours and the concentration of carbon monoxide is expressed in parts per 10,000 of air, the physiologic effects may be defined by the equations:
>
> Time × concentration = 3, no perceptible effect.
> Time × concentration = 6, just perceptible effect.
> Time × concentration = 9, headache and nausea.
> Time × concentration = 15, dangerous.
>
> The meaning of this rule is that . . . breathing of air containing one part of carbon monoxide for four hours by a person sitting at rest and breathing quietly produces essentially the same effect as breathing air containing four parts for one hour.

It is important that this should be clearly understood because of an unfortunate paragraph in Peterson, Haines and Webster's Legal Medicine and Toxicology,[9] in which it is stated that "carbon monoxide is not a cumulative poison, but when inhaled in very small quantities it disappears from the blood. In cases of chronic gas poisoning the blood does not serve for diagnosis." The first sentence calls for revision. The second is no longer valid, since estimation of carbon monoxide by the method of Van Slyke[10] gives accurate values down to 1 per cent, while symptoms of chroni poisoning are probably not encountered until the con centration of carbon monoxide is above 5 per cent the blood.

In adults the symptoms of gradual or chronic ga poisoning are, first of all, *fatigue and muscular* weak ness; then headache, dulness, mental depression, poo memory, restricted fields of vision, ashy pallor, palp tation and irregularity of the heart; and, finally, nausea, vomiting, vertigo, slowing of the pulse, dyspnea, dilatation of the veins of the neck, polycythemia, and increasing torpor.[11]

It is interesting to note how many of these symptoms are subjective; that is, one must depend on the patient's story rather than on what is found on physical examination. The objective signs are suggestive only in the late phases when the amount of carbon monoxide in the blood is so great as to approach the stage of acute poisoning.

With children, the problem of gradual gas poisoning is more serious, and the younger the child the greater the danger and the more difficult it is to make a diagnosis. Older children, of school age, from whom a history of subjective symptoms might be obtained by careful questioning, are probably saved from the cumulative effect of escaping gas in an ill ventilated house by the very fact of their attendance at school and their hours of play in the streets. Younger children, and especially infants, have a peculiar susceptibility to the poisonous effects of carbon monoxide. This susceptibility varies directly with the respiratory exchange and the metabolic rate, and inversely as the weight of the body.[12] Boehm[13] says: "It is quite certain that children succumb rapidly to the action of the poison." According to Lancereaux,[14] "of those poisoned by carbon monoxide, those who have most need of oxygen, that is to say, the young, succumb most quickly or are most easily affected."

Subjective symptoms are out of the question in children under 4 years of age, and without a definite history of gas exposure the clinician has, as yet, no recognized symptom complex to lead him to a diagnosis in cases of gradual gas poisoning.

The following case seemed to be of sufficient interest to report in detail:

REPORT OF CASE

A. M., a boy, aged 7 weeks, was brought to the outpatient department of Bellevue Hospital, Oct. 22, 1925, with a complaint of vomiting.

The family history was negative. There had been four previous pregnancies, the children all living and well. This baby had been born in normal labor at term, and weighed 9 pounds (4 Kg.) at birth: it had been bottle fed from the first. There had always been a tendency to vomit, with failure to gain; the baby had been wakeful and cried bitterly. When he was about 6 weeks old, the mother noticed that the child cried very little and during the following week seemed dull, slept a great deal, took only a part of the feedings, and vomited after each bottle. Two days before admission, the baby seemed cold to the touch and all feedings were forcibly vomited. The bowels were constipated, but the stools were of the usual yellow when obtained by enema.

This history seemed to suggest pyloric stenosis.

When examined, the baby did not appear, at first glance, to be in a serious condition. There was no unconsciousness:

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ll; and Haggard, H. W.: The Elimination of he Blood After a Dangerous Degree of Asphyx- r Accelerating the Elimination, J. Pharmacol. & 'Aug.) 1920.

Clinical Manifestations of Illuminating Gas . 144: 577 (Oct.) 1912.

Action of Carbonic Oxide on Man, J. Physiol. 18: 430, 1895.

[6] Gettler, A. O.: Quoted by Norris, C.: Carbon Monoxide Poisoning, Indust. Hyg. Bull. New Work, August, 1925.

[7] Glaister, J., and Logan, D. D.: Gas Poisoning in Mining and Other Industries, New York, William Wood & Co., 1914, p. 311.

[8] Henderson, Yandell; and Haggard, H. W.: Health Hazard from Automobile Exhaust Gas in City Streets, Garages and Repair Shops, J. A. M. A. 81: 385 (Aug. 4) 1923.

[9] Peterson, Haines and Webster: Legal Medicine and Toxicology, New York, W. B. Saunders Company, Ed. 2, 2: 309, 1923.

[10] Van Slyke, D. D., and Salvesen, H. A.: The Determination of Carbon Monoxide in Blood, J. Biol. Chem. 40: 103 (Nov.) 1919.

[11] Haldane (footnote 5). Wilmer, W. H.: Effects of Carbon Monoxide on the Eye, Am. J. Ophth. 4: 73 (Feb.) 1921.

[12] Henderson (footnote 2). Haldane (footnote 5).

[13] Boehm, R., in Ziemssen's Cyclopedia of Medicine, New York, William Wood & Co. 17: 464, 1878.

[14] Lancereaux, M. E.: L'empoisonnement oxycarboné par les poêles mobiles, Bull. Acad. de méd., Paris 21: 161 (Feb.) 1889.

The limbs and head were moved about, and the pupils, in middilatation, reacted, though slowly, to light. At intervals the baby gave a short, rather feeble cry. There was obvious undernourishment, with a weight of only 6 pounds 3 ounces (2.7 Kg.); but the uniform pink flush of body and limbs gave a false impression of health. If anything, the hands and feet and lips were more brightly pink than the rest of the body.

On palpation, it was shocking to find the baby's flesh as cold as a corpse. External warmth was applied at once and the temperature taken. Not one of three clinical thermometers would register in the rectum as high as 94. In all, the mercury hung at least a quarter of an inch below that mark. A hot coffee enema was given, and the rest of the examination was carried out with the baby lying on warm water bags and blankets.

The skin was inelastic and showed dehydration. The respirations were irregular, slow and shallow. The breath was without odor. The pulse was not palpable at the wrist. The heart was slow and irregular, varying between 80 and 48 per minute. The spleen was not palpable. The reflexes were all very sluggish. There were no paralyses.

In cases of such extreme circulatory failure, one would expect to find a general pallor, with cyanosis of the hands and feet. The extraordinary bright pink flush led to the tentative diagnosis of carbon monoxide poisoning, and the mother was carefully questioned as to possible exposure. She denied any knowledge of escaping gas in the house: no gas heater had been in use; she was sure the family would have smelled gas if there had been a leak.

Meanwhile, Dr. Lester Rosenberg had done the rapid qualitative test for carbon monoxide. Three drops of blood from the baby's heel were allowed to drop into 5 cc. of water and shaken to a uniform pink solution. Three drops of control blood from his own finger were shaken with the same amount of water in a second test tube: to the contents of both tubes a drop of 5 per cent sodium hydroxide solution was added. The solution of blood from the baby remained a clear pink, while the control solution turned a dirty green. This showed the presence of carbon monoxide in the baby's blood of at least 10 per cent. Blood was then drawn for the quantitative test by the method of Van Slyke, as modified by Parker and O'Brien. Dr. A. O. Gettler reported a concentration of 18 per cent carbon monoxide.

The baby lived forty-four hours in the hospital, with a temperature always below 96 in spite of external heat. The pulse did not rise above 80 and was always irregular. The respirations became very slow and shallow down to 6 per minute.

Hypodermoclysis was given of 200 cc. of 5 per cent glucose, and repeated with 125 cc. of the same solution.

Oxygen was administered without apparent effect. Transfusion was attempted, but by the time a donor was obtained the baby was too far gone. During the first twelve hours about half of the milk mixture was taken and vomiting occurred only twice.

Examination of the blood revealed: hemoglobin, 80 per cent; red blood cells, 4,360,000; leukocytes, 18,000; polymorphonuclears, 88 per cent; lymphocytes, 10 per cent, and large mononuclears, 2 per cent.

The coagulation time was normal, and the bleeding time somewhat retarded.

The urine showed no acetone and was normal, except for a faint trace of albumin.

After death blood was again drawn for a quantitative test, and 8.5 per cent carbon monoxide was found.

A necropsy was done by Dr. B. M. Vance of the chief medical examiner's office, and an unobstructed pylorus was found. The only positive findings were fine reddish hemorrhagic spots throughout the lungs, and a congested condition of the spleen, liver and kidneys. Microscopic sections of the lung showed the small pathologic areas to be simply groups of alveoli filled with red blood cells; there was no surrounding inflammation. Sections of the brain, basal ganglions and medulla showed no pathologic change. Death was pronounced as due to carbon monoxide poisoning.

A visit of inspection to the house revealed a leak of illuminating gas from a central fixture in the front room of the flat. It was in this room that the baby's crib was placed at night. The apartment was of only three rooms, in which lived a family of seven, the mother and father and four children of 7, 6, 5, and 1½ years, respectively, besides the baby that had succumbed. There were only two outside windows, both in the front room: these were open "most of the time." The cook-stove, burning anthracite and in use only for preparing the meals, was in the middle room. Opening out of this was a dark room in which the baby had been kept in the day: a small window opening on the hall of the tenement had been kept open "part of the time."

The mother protested that the baby, for the past month, had been taken out nearly every day for two hours at least. The father, who was away all day, the older children, who were out of the apartment most of the time, and the 18 months old child, who played on the roof, all seemed well and gave no history of suggestive symptoms. The mother, who had been with the baby constantly, had suffered for the past five months from headache, always worse on waking in the morning. These headaches stopped after the gas had been shut off.

This is the sum of all the evidence obtainable, and it is only fair to say that the complete good faith of the mother is not to be questioned.

In the light of these facts is it possible to reconstruct the case with a fair degree of probability? It is not known how long the gas had been escaping into the apartment, but the amount at any one time must have been so small that no one noticed the odor. Accordingly, we must assume a gradual cumulative absorption of carbon monoxide, perhaps since birth. Before the concentration in the blood became at all high, we find the symptoms of vomiting, failure to gain, restlessness and constant crying. The last week of torpor, lost appetite, and forcible vomiting, with the final few days of lowered bodily temperature, slowed pulse and respiration, will represent the phase in which the carbon monoxide in the blood had accumulated to such a point as to impair the processes of oxidation in the body and to cripple the circulatory mechanism.

Lancereaux [14] quotes Cadet de Gassicourt as reporting a similar case, but with no reference to vomiting as a symptom. The infant, 29 days old, fell ill, refused to nurse, and slept constantly with eyes half closed. The pulse was feeble, respiration was slowed, and the temperature was normal or somewhat low, so that the baby was in almost a lifeless condition. All the symptoms were due to inhalation of small quantities of carbon monoxide from a badly burning stove. This patient recovered.

To illustrate symptoms in older children from repeated exposure to carbon monoxide, Koren [15] gives an account of three sisters, aged 4, 8 and 12 years, poisoned by carbon monoxide from a slow combustion stove. The air of the room was found to contain 0.4 per cent of carbon monoxide. The symptoms were slight jaundice with attacks of vomiting, general pallor of the skin, headache, breathlessness and dilatation of the veins of the neck. There were hemic murmurs of the heart, with enlargement of the spleen. The number of red blood cells and the hemoglobin percentages were much diminished. Albumin was present in the urine. The 8 year old girl died on the ninth day. At necropsy, marked cardiac dilatation was found, with advanced degeneration of the cardiac muscle. The other two children made a rapid and complete recovery.

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[15] Koren, A.: Tre Tilfaelde af akut forløbende perniciøs Anaemi inden samme Husstand, Norsk. Mag. f. Lægevidensk. 6: 550, 1891.

Wilmer[11] reports a very interesting case of the effects of gradual poisoning by carbon monoxide on a family including several children, one as young as 4 years. Symptoms noted were listlessness, progressive pallor, loss of appetite, fatigue, night terrors, auditory disturbances and contraction of the visual fields.

It is reasonable to suppose that cases like these are not exceptional; that in every large city a certain number of gradual poisonings by carbon monoxide occur, but that very few are recognized as such. Since the danger is especially grave for infants, the mothers should be specifically warned in the use of gas appliances, and more than ordinary emphasis should be placed on the necessity of fresh air outings and ventilation in the home.

In the milder grades of gradual gas poisoning, the diagnosis will not be easy. When an infant is seen with torpor, subnormal temperature and a history of vomiting and failure to gain, it is only fair to question the mother as to the use of gas in the home and the amount of fresh air the baby has been getting. Certainly in such cases the simple and rapid qualitative test for carbon monoxide in the blood should be done before the usual diagnosis of malnutrition with gastroenteritis is allowed to stand.

The advanced cases are more easily recognized; in these the heart is slowed, the body temperature is very low, and the characteristic pink flush of the skin and mucous membranes serves as an index of the degree of saturation of the blood with carbon monoxide.

SUMMARY

1. There is a seasonal increase, in the winter, of the hazard of gas poisoning, acute and chronic.
2. There is a cumulative poisonous effect of repeated or continuous exposure to small amounts of carbon monoxide.
3. Young children and infants are peculiarly susceptible to gradual carbon monoxide poisoning.
4. In serious cases of gradual gas poisoning, there will probably be more than 10 per cent of carbon monoxide in the blood.
5. There is a simple and rapid qualitative test for carbon monoxide in the blood, which will show the presence of 10 per cent or more.
6. Clinicians should be on the alert to recognize cases of gradual poisoning by carbon monoxide, especially in infants.

55 East Seventy-Sixth Street.

Progression of Greek Education.—As regards the exercises which the Greeks after centuries of experience adopted in their system of physical training, we know most about those which were used at the great games. Probably the oldest of all is running, perhaps because the warrior required efficiency in this respect both for attack and for defense; the Greeks practiced endurance in a long race and making a short distance in the quickest possible time. Later came jumping, discus throwing, spear throwing and wrestling. These five exercises together made up the famous pentathlon, which was the most important event in the Olympic games. Those who could be victorious in all these five exercises must have attained very all round physical development. Running and jumping brought the legs into use, discus and spear throwing the arms, while wrestling gave strength to the torso. We learn from Aristotle that those who took part in the pentathlon were the most beautiful of human beings, and that their bodies were equally well developed as regards strength, ease and quickness.—Knudsen: A Textbook of Gymnastics, p. 2.

A SYSTEM FOR AN INTENSIVE POLLEN SURVEY

WITH A REPORT OF RESULTS IN CHICAGO *

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AND
O. C. DURHAM
CHICAGO

The necessity of reliable local botanic data in solving the hay-fever problem has been frequently emphasized, and a number of field surveys have been made in which the common weeds that produce wind-borne pollen were observed and listed. At least one observer (Scheppegrell) has reported careful studies of atmospheric pollen over long periods. While field observation gives exact information as to the seasonal and geographic factors, it does not yield very satisfactory quantitative data. Exposing oil-coated plates to catch the air-borne pollens and making differential counts of them at regular intervals is a method that gives very valuable quantitative results, but it should be supported

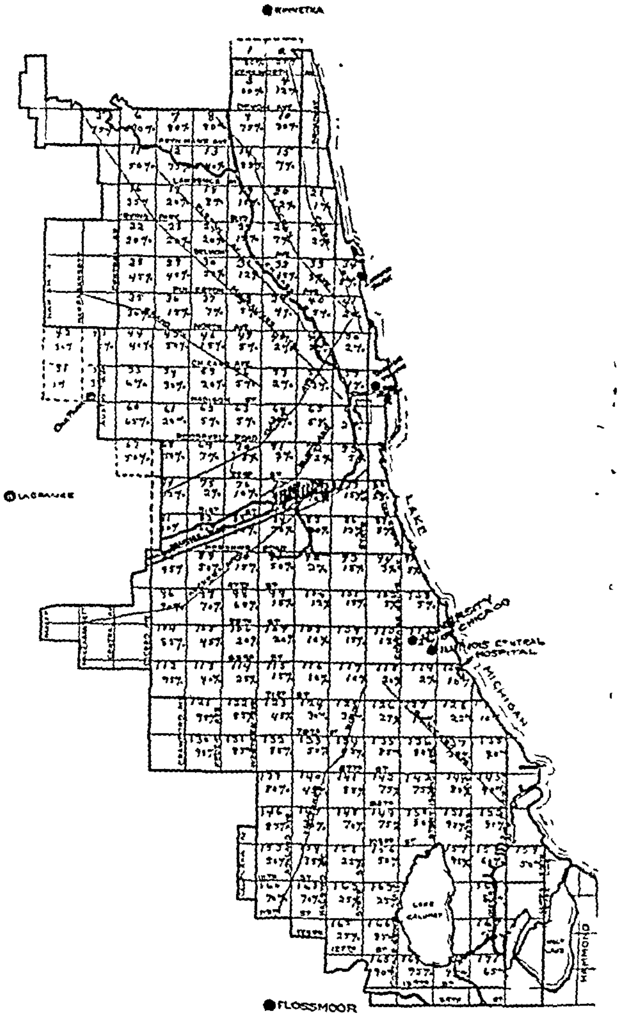

Fig 1.—Map used in field survey: The numbers on the squares correspond to those on cards in the index; plate stations are shown by the large dots. Each block is a mile square. Numbers correspond to those on cards in index where the pollen-producing plants are listed. Percentages indicate amount of area given to free vegetation.

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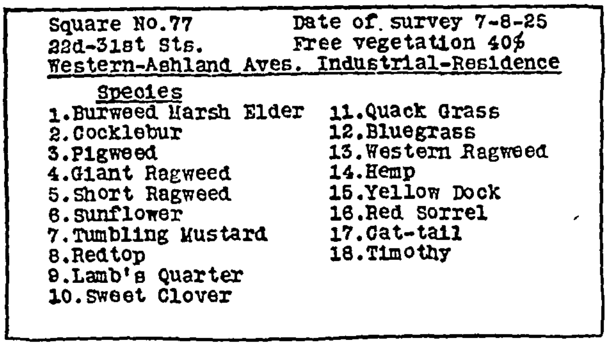
* From the Otho S. A. Sprague Memorial Institute and the Department of Pathology, University of Chicago.

by careful field work. By using a combination of these two methods, we have been able to secure a large amount of satisfactory data on the distribution and abundance of the flora in Chicago; the time, duration and intensity of pollen production, and the relative importance of the offending plants.

METHODS

With the aid of a competent botanist in the field continuously from the first of June until the last of September, 1925, we were able to carry on a combined field and air survey of Chicago. The field work consisted in a city-wide examination of the hay-fever producing flora. For this purpose, the city was divided into 171 mile-square blocks (fig. 1), each of which was carefully inspected at least once during the season. A card index record (fig. 2) was made of each square, showing the percentage of its area given to free vegetation, the character of the area, and a list of all the important plants ranking in the order of their abundance in the square. Specimens of all plants studied were collected while in bloom and preserved as a permanent herbarium.

For the air study, stations were established in various parts of the city where oil-coated microscopic slides were exposed, from which, as far as weather conditions would permit, differential pollen counts were made daily. Corn oil or cottonseed oil was found to be better than glycerin for this purpose, because of the fact that they do not absorb moisture and thus distort the pollen grains. Stains were not found necessary in preparing the slides for counting. Distinctions between pollens of the various groups and species were based largely on the shape and surface markings. There is such variation in a single pure specimen that except where there is considerable normal difference between species, size was found not to be a safe point of distinction. Except in the case of corn, it was not found practical to distinguish between the various grasses. Short and giant ragweed pollens could not be differentiated, their average size (about 15 microns) and general appearance being very nearly the same. Hop and hemp could not be differentiated. The docks and plantains, though not related botanically, were also counted together.



Square No.77 Date of survey 7-8-25
22d-31st Sts. Free vegetation 40%
Western-Ashland Aves. Industrial-Residence

Species
1.Burweed Marsh Elder
2.Cocklebur
3.Pigweed
4.Giant Ragweed
5.Short Ragweed
6.Sunflower
7.Tumbling Mustard
8.Redtop
9.Lamb's Quarter
10.Sweet Clover
11.Quack Grass
12.Bluegrass
13.Western Ragweed
14.Hemp
15.Yellow Dock
16.Red Sorrel
17.Cat-tail
18.Timothy

Fig. 2.—Specimen card from index: This index is intended to be used for reference in conjunction with the map (fig. 1) in the study of particular cases of pollen disease.

FIELD STUDIES [1]

Chicago has no extreme differences of topography or soil; consequently, we find a striking similarity in the flora of all parts of the city. There is a little marsh land, near Lake Calumet, and almost no woodland. The suburban districts are either unbroken prairie or gardens. On account of numerous railways, widely scattered factory districts and the many detatched residential developments, there are large areas of neglected land comparatively near the center of the city. Only a few of our 171 squares are so closely built as to exclude vacant lots. Dense growths of ragweeds, sometimes 6 feet high, follow the banks of canals and rivers along most of their entire length. Within two and a half miles of the "Loop" can be found extensive weed patches. Even if weed cutting laws were enforced they would accomplish little, for most noxious weeds will make a second or even a third growth and will bloom almost in spite of anything. While grasses predominate in the undisturbed soil of the suburban districts, and the vacant lots closer in are more weedy, yet we found that the variety and amount of pollen were practically the same on a given day at the top of the Tribune Tower as they were near the ground in the Oak Park district. Thus, the plates confirmed the field observations as to evenness of distribution of species.

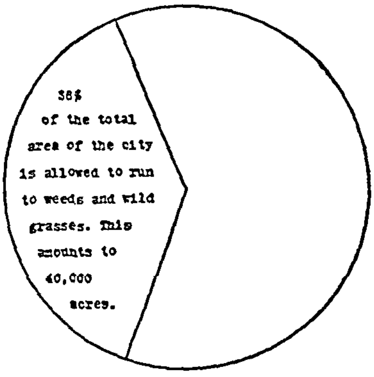


Fig. 3.—Weed area in Chicago: average of the waste area in the 171 squares into which the city was divided in making the survey.

The total of all neglected land in Chicago amounts to 38 per cent of the city's area (fig. 3). Thus, each year there are at least 40,000 acres within the city limits producing nature's own selection of weeds. An idea of what this means is gained by computing the amount of pollen an acre of ragweed will yield. An average city lot (about one-tenth acre) of ragweeds will produce a minimum of 100 ounces of pollen in a season. This is about 60 pounds per acre. Actual production is often many times this figure. This means that hundreds of tons of ragweed pollen alone are liberated each season in Chicago.

Table 1 is a list by groups of the plants studied. Trees were not included in the survey, as their pollinating season was past when the work was started. It is important to be familiar with these botanic groups and in the study of specificity of pollen reactions to remember a plant's family ties. All close relatives of offending species were closely watched. The botanic names are included in this list for reference, as the common name used for any plant in this article is at best a local one and likely to be only one of a dozen by which it is known throughout the country.

PRODUCTION FACTORS

To appreciate best the data embodied in the graphs and charts of totals and averages to be presented in the latter part of this paper, it should be noted that the three outstanding factors determining a plant's importance are length of season of bloom, abundance of plants and intensity of pollen production. As weather has less immediate effect on production of pollen than its distribution, its influence had best be considered in interpreting the totals.

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[1] The field work and microscopic identification of plants was carried out under our direction by Mr. James H. Palmer and Mr. E. H. Runyon.

Tabe 1.—*Plants Studied*

Common Name	Botanic Name
Grasses	Gramineae
Timothy	Phleum pratense
Orchard grass	Dactylis glomerata
Corn	Zea mays
Bluegrass	Poa pratensis
Redtop	Agrostis palustris
Wild rye	Elymus spp.
Annual bluegrass	Poa annua
Wire-grass	Poa compressa
Quack grass	Agropyron repens
Ray grass	Lolium perenne
Fescue	Festuca spp.
Panic grass	Panicum spp.
Marsh grass	Spartina cynosuroides
Ragweeds	Ambrosiaceae
Short ragweed	Ambrosia elatior
Giant ragweed	Ambrosia trifida
Western ragweed	Ambrosia psilostachya
Burweed marsh elder	Iva xanthifolia
Cocklebur	Xanthium commune
Chenopods	Chenopodiaceae
Lamb's quarter	Chenopodium album
Oak-leaved goosefoot	Chenopodium glaucum
Maple-leaved goosefoot	Chenopodium hybridum
Russian Thistle	Salsola kali
Orache	Atriplex patula
Amaranths	Amaranthaceae
Pigweed	Amaranthus retroflexus
Western water hemp	Acnida tamariscina
Wormwoods	Artemisia
Mugwort	Artemisia caudata
Biennial sage	Artemisia biennis
Prairie sage	Artemisia ludoviciana
Composites	Compositae
Sunflower	Helianthus annuus
Tickseed sunflower	Bidens spp.
Goldenrod	Solidago spp.
Docks	Rumex
Yellow dock	Rumex crispus
Red sorrel	Rumex acetosella
Plantains	Plantago
Plantain	Plantago major
English plantain	Plantago lanceolata
Miscellaneous	
Hemp	Cannabis sativa
Japanese hop	Humulus japonica
Sweet clover	Melilotus alba
Tumbling mustard	Sisymbrium altissimum
Cat-tail	Typha spp.

The simplest of the foregoing factors is the time and length of the blooming season (table 2). Some species will bloom for an average of eight weeks, with the apex of pollen production near the middle of that time. The time of really effective production is as short as two days for some species and as long as a month for others. Annual bluegrass, sweet clover and lamb's quarter have unusually long seasons, while those of the wormwoods (mugwort, annual sage and biennial sage) are very short. Docks and plantains are the only weeds blooming during the grass season. The chenopods and amaranths bridge the gap between the spring and fall pollen seasons. While the dates given here will vary somewhat from year to year, the variation, particularly in late summer and fall, will not exceed two or three days. A study of the calendar alone might suggest that there are times when there are as many as twenty species of pollen in the air at once, but plate counts show that less than half that many are of consequence at any time.

Table 2.—*Field Pollen Calendar, Showing Date and Length of Season of Bloom for Each Species**

	May	June	July	Aug.	Sept.
Annual bluegrass	— —	+ + + +	+ + + +	— — — —	— — —
Red sorrel	— —	+ + + +	+ + + +	— —	
Yellow dock	—	+ + + +	— — — —	—	
Bluegrass	—	+ + + —			
Orchard grass	—	+ + + +	— — — —		
English plantain		— + + +	+ + — —	— — —	
Wire grass		— + + +	+ — — —		
Ray grass		— — —	— — — —	— — —	
Sweet clover		— — —	+ + + +	— — — —	— — — —
Tumbling mustard		— — +	+ + + —	—	
Cat-tail		— —			
Wild rye		— —	— — — —	— —	
Plantain		+ +	+ + — —		
Timothy		— +	+ — — —		
Quack grass		— —	+ + + —	—	
Fescue		—	+ + + —	—	
Redtop		—	+ + + —		
Lamb's quarter		—	— + + +	+ + + —	— — — —
Hemp			— + + +	+ + + +	— —
Pigweed			— — + +	+ + + +	— — — —
Russian thistle			— — — —	— — — —	— — — —
Sunflower			— — — —	— + + +	+ — — —
Western water hemp			— — + +	+ + + —	— — — —
Oak-leaved goosefoot			— — —	— — — —	— —
Maple-leaved goosefoot			— —	— — —	
Short ragweed			— —	+ + + +	+ — — —
Giant ragweed			— —	+ + + +	+ — — —
Orache			—	— + + +	— — — —
Western ragweed			—	— — — —	— —
Japanese hop			—	+ + + +	+ + — —
Goldenrod			—	— — + +	+ — — —
Panic grass			—	— — — —	— — — —
Marsh grass				— — — —	— —
Burweed marsh elder				— + +	+ —
Mugwort				— —	
Cocklebur				— +	+ —
Biennial sage					— —
Prairie sage					—

* In the table, each sign, minus or plus, represents one week. The portion of the line denoted by ++++ represents the season of maximum observed pollination.

The relative abundance of plants in the field, as shown in table 3, was determined by the order of the appearance of the species in the card index. We find that the ragweeds, including marsh elder and cocklebur, equal in quantity all other free vegetation in the city. Grasses are about half as abundant. The next group in order is the amaranth, followed by the composites and chenopods. The rank of each species is as valuable as that of the groups. These figures are not subject to much variation on account of weather or season.

Table 3.—*Relative Abundance of Hay-Fever Plants*

Scale of 100

Short ragweed	100
Giant ragweed	68
Sweet clover	45*
Burweed marsh elder	43
Cocklebur	43
Pigweed	34
Wire-grass	31
Quack grass	30
Redtop	30
Sunflower	24
Bluegrass	24
Lamb's quarter	12
Panic grass	9
Tumbling mustard	6
Annual bluegrass	6
Orchard grass	3
Timothy	2
Orache	2
	1
	1
By Groups	
Ragweeds	100
Grasses	50
	12
	10
Chenopods	6

* The rôle played by sweet clover as a hay-fever plant is very problematic, but it seemed best to include it at this time in the table.

The important factor in intensity of production of pollen of each species is quite difficult to reduce to figures. Table 4 is the result of ten years of observation and experience in collecting pollen in quantities and is, of course, only approximate. This factor varies with the weather more than either of the other two. Giant ragweed is easily the heaviest pollen producer encountered in Chicago, though the highest plate count for any single species during the survey was for burweed marsh elder. Lamb's quarter yields heavily only under very favorable conditions, usually late in the fall. During the summer, it does not rank nearly as high as here given. Water hemp would enter more into the totals if it had a wider distribution. While it is the most common weed in one square (no. 92), it is not found at all in most parts of the city, being the extreme example in Chicago of a locally abundant plant. Mugwort could easily be a cause of trouble if it were more abundant.

TABLE 4.—*Relative Ability to Produce Pollen (Scale of 100)*

	Maximum Intensity
Giant ragweed	200
Orchard grass	180
Burweed marsh elder	150
Western water hemp	140
Short ragweed	100
Lamb's quarter	100
Hemp	100
Japanese hop	100
Bluegrass	95
Timothy	90
Mugwort	80
Cocklebur	80
Redtop	85
Pigweed	20
English plantain	40
Sunflower	10
Quack grass	10
Sweet clover	3
Goldenrod	8

Orchard grass leads the grasses in pollen producing ability if not in acreage. The few examples given above illustrate the complexity of the pollen problem, when considered from any angle except that of the air analysis.

EVALUATION OF SPECIES

With the foregoing more or less artificial data in mind to help in interpreting our findings, it is profitable to study the actual performance of the same species and groups as shown by the air survey. The plate counts for all stations have been averaged for each day and condensed into one table (table 5). From this table several graphs have been drawn, one of the most interesting of which is the total graph (fig. 4). Two thirds of the pollen found on the slides was from the ragweeds, one fifth from the grasses; and of the remainder, the chenopods were the largest contributors.

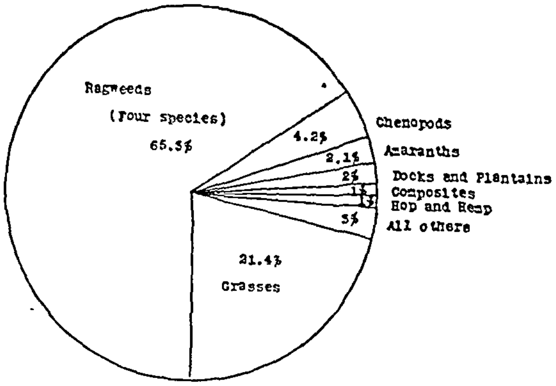

Fig. 4.—Total pollen found on plates calculated from the totals of all pollen plates exposed at the regular stations during the season June, July, August and September; special plates are not included.

The most important of the dozen species of grasses studied is bluegrass. Its wide distribution and intensive production of pollen easily put it in the lead. Redtop and orchard grass command about equal attention. The former sends up blooms to about the height of

TABLE 5.—*Average Plate Counts*

	Grasses	Dock and Plantain	Chenopods	Cat-Tail	Amaranths	Hop and Hemp	Sweet Clover	Mustard	Short and Giant Ragweeds	Burweed Marsh Elder	Cocklebur	Goldenrod	Sunflower	Wormwood	Tickseed Sunflower	Corn	Others	Total	Wind Direction	Wind Velocity	Precipitation in Inches
June 4	87	4	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	91	SW.	13.6	....
5	83	10	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	93	SW.	9.9	....
6	116	4	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	122	E.	7.2	....
9	131	9	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	140	SW.	20.7	....
10	229	11	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	240	NE.	14 8	....
11	44	3	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	47	SE.	14.3	0.01
18	41	9	..	3	..	..	..	..	...	..	..	..	..	..	..	..	..	53	SW.	12	1.76
19	19	4	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	23	SW.	9.5	....
20	33	7	2	..	..	..	..	..	...	..	..	..	..	..	..	..	..	42	NE.	9.8	....
24	30	7	1	2	..	..	..	..	...	..	..	..	..	..	..	..	..	40	N.	14	1.8
30	20	4	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	24	NE.	8	....
July 1	12	3	1	1	..	..	..	..	...	..	..	..	..	..	..	..	..	18	SW.	12.5	....
2	21	5	1	..	..	..	..	..	...	..	..	..	..	..	..	..	..	28	NE.	10.2	....
3	18	6	1	2	..	..	..	..	...	..	..	..	..	..	..	..	..	27	E.	8.9	0.10
7	23	12	1	..	1	..	..	..	...	..	..	..	..	..	..	..	..	36	NE.	9.5	....
8	17	4	1	..	1	..	..	..	...	..	..	..	..	..	..	1	..	24	NE.	8	....
10	47	6	5	..	2	3	1	1	...	..	..	..	..	..	..	..	..	65	NE.	8.5	....
11	23	4	3	..	1	1	..	..	...	..	..	..	..	..	..	1	..	34	SW.	10	0.32
16	20	..	8	..	5	2	3	..	7	..	..	..	..	..	..	..	3	48	NW.	13.4	0.01
22	15	..	4	..	4	2	1	1	7	..	..	..	..	..	..	..	3	37	NW.	9.2	....
23	11	..	4	..	4	1	..	..	8	..	..	..	..	..	..	..	2	30	SE.	6 8	....
24	16	..	5	..	3	3	..	..	5	..	..	..	..	..	..	..	2	36	S.	9.7	+
August 11	3	..	2	..	3	2	..	..	19	..	..	..	..	..	..	..	1	30	NE.	8 5	+
15	1	..	2	..	2	2	1	..	21	..	..	..	..	..	..	..	2	34	NE.	5.8	....
16	1	..	6	..	3	4	1	1	27	..	..	..	..	..	..	..	1	47	SE.	6.7	....
17	2	..	3	..	4	5	..	..	68	..	..	..	..	..	..	2	..	84	S.	6.8	+
19	1	..	4	..	3	3	..	..	53	8	1	..	..	1	..	1	..	75	NE.	6.3	+
20	2	..	2	..	1	2	..	..	50	15	1	..	..	..	..	1	..	74	NW.	9.3	0.06
21	2	..	5	..	4	..	1	..	152	14	..	..	..	1	..	..	2	181	NE.	11.5	....
22	3	..	9	..	3	..	..	..	122	..	..	3	..	..	..	..	9	149	S.	7.3	....
25	4	..	14	..	10	2	..	..	221	..	3	3	1	1	..	..	2	261	SW.	6 2	....
26	4	..	5	..	5	2	..	..	353	18	8	..	1	..	..	..	..	396	NE.	16.2	....
28	1	..	5	..	2	..	..	..	339	49	2	..	..	..	..	..	5	363	SE.	9.3	....
31	16	..	8	..	..	..	..	8	500	..	..	20	..	..	..	..	..	552	NE.	7.8	....
September 1	11	..	24	..	1	4	10	..	396	19	9	..	..	..	..	..	..	474	NE.	6.2	....
7	3	..	16	..	..	..	..	..	157	4	1	..	..	..	..	..	..	181	NE.	5.5	....
8	10	..	..	..	..	..	..	..	105	..	4	..	..	..	..	..	..	119	S.	9.7	0.06
9	9	..	30	..	3	8	..	..	308	..	4	..	..	..	1	..	3	366	SW.	11.8	0.15
16	2	..	5	..	..	1	..	..	34	..	..	..	..	..	1	..	1	44	NE.	5.9	....
17	13	..	..	..	..	3	..	..	73	..	..	..	..	4	1	..	..	111	S.	14	....
18	5	..	..	..	..	..	..	..	40	..	..	..	..	..	5	..	..	62	NE.	11.8	0.01
19	32	..	20	..	..	..	..	..	44	..	..	..	..	..	4	..	48	148	SW.	11.6	0.24
20	12	..	..	..	..	..	..	..	36	..	..	..	..	..	..	..	..	48	SW.	16.2	+
21	12	..	4	..	4	..	..	..	25	..	..	..	..	..	..	..	..	45	NE.	13.1	....
22	4	..	4	..	..	..	..	..	14	..	..	..	..	..	..	..	1	23	E.	8.2	0.01
23	4	..	9	..	..	..	..	..	10	..	..	..	1	1	..	..	2	27	SW.	9.2	....
24	4	..	6	..	..	..	..	..	18	..	..	2	..	..	..	..	..	30	NE.	14.8	....
25	6	..	6	..	..	..	..	..	36	..	..	..	..	..	..	..	4	52	E.	12.9	....
28	4	..	..	..	..	..	..	..	16	..	..	..	..	..	..	..	..	20	NE.	7.4	....
29	8	..	..	..	..	..	..	..	29	..	..	..	..	..	..	..	3	40	E.	10.9	....

those of bluegrass, but it is finer in appearance, while the latter is much coarser and larger. Bluegrass and orchard grass seasons are almost parallel, and they are probably responsible for 80 per cent of the pollen causing the apex of the grass curve (fig. 5). The smaller wave in July is largely due to redtop, but if timothy were more plentiful it would add materially to this wave Quack grass is in bloom at this time also. The weather interfered considerably with results during the latter part of the grass season. Corn pollen seldom reached the plates and never got as high as the Tribune Tower Annual bluegrass, often found in lawns, will bloom when only a few inches high and at any time during the growing season, but does not yield heavily enough to be of much importance Wild rye is a summer grass with a small yield of pollen. The small fall grass peak was due to panic grass.

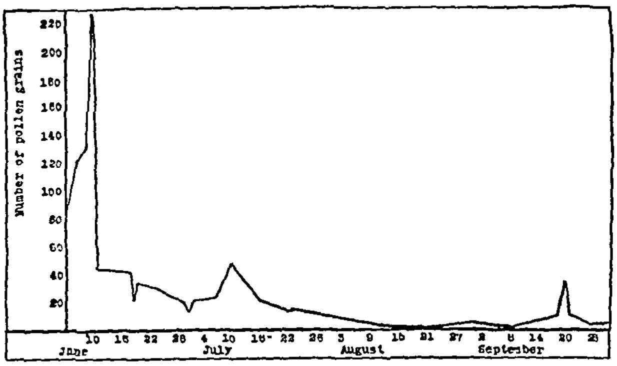

Fig 5—Grass pollen season from average plate counts

Of the five ragweeds found in Chicago, short ragweed and giant ragweed are of about equal importance. The plants of the latter species are not quite so abundant as the former, but are much more productive. These two weeds are largely responsible for the fall pollen season (fig. 6). Burweed marsh elder is similar to giant ragweed in size and shape, with leaves resembling sunflower or cocklebur. It derives its name from the latter resemblance. It has a wide distribution and a short season of intensive bloom, preceding that of the other ragweeds a few days Cocklebur is widely distributed and will thrive where no other weeds can, but it has a low pollen output

Table 6—*Specimen of Special Plate Count* *

August 21 Plate exposed at Sheridan Road and Diversey Boulevard for 24 hours South of Burweed Marsh Elder and Giant Ragweed, 20 300 feet south of Mugwort In line with the wind

	Pollens
Short and giant ragweed	273
Mugwort	293
Burweed marsh elder	487
Chenopods	9
Amaranths	6
Grasses	4
Goldenrod	1

* The plate clearly illustrates the proportion of pollens from the ragweeds and all other plants in the early fall Only one pollen of the goldenrod was found

Lamb's quarter furnishes almost all the pollen from the chenopod group, and pigweed is equally important in the amaranth group. Both should be regarded as of local importance Plantains and docks are of only local importance. They are common lawn and pasture weeds and should be remembered during the grass season. Japanese hop and hemp, though unlike in appearance, are closely related botanically. The former is a vine that is sometimes cultivated, but when it escapes into waste places it will almost cover all other vegetation. Hemp is as large as giant ragweed. Both hop and hemp produce much pollen but are not very abundant.

A number of special plates were exposed for the study of particular species. The results of one of these exposures is shown in table 6. It makes unanswerable argument as to productive ability. As the few mugwort patches are in the northern part of the city, only a very few grains of the pollen ever reached the regular plates, but this plate shows that it could easily cause trouble. It should be noted what burweed marsh elder can do. Sweet clover is probably the most conspicuous plant in the city and has been suspected of causing hay-fever. Considerable time was spent studying it. Strong winds will dislodge its pollen, and it is possible that it may occasionally annoy some one who is brought into close contact with it. Tumbling mustard is also a showy summer weed, but its pollen is blown with much difficulty. Sunflowers and other composites are abundant, but special plating failed to catch their pollens in any quantity. Their pollens may be valuable in treatment of pollen disease caused by their ragweed relatives, but with reasonable care they need never be a causative factor.

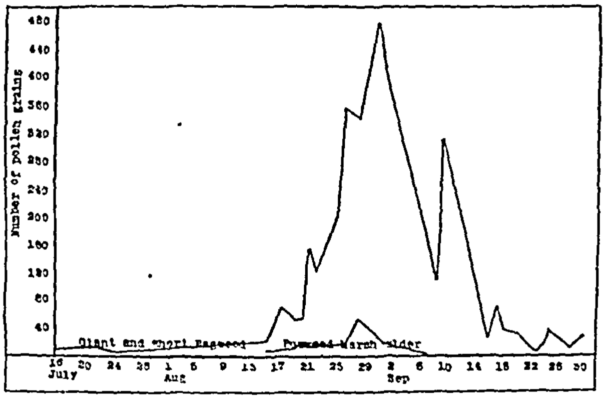

Fig 6—Ragweed pollen season from average plate counts.

POLLEN SEASONS AND WEATHER

The two pollen seasons as shown in figure 7 are not much more than a combination of the grass and ragweed curves (figs 5 and 6). Their relative volume is interesting, that of the spring season being about one fifth of that of the fall season. Wind and rain and the immediate presence of Lake Michigan make noticeable variations in this total curve. Almost every fluctuation is easily traced to one of these causes. During June, the prevailing winds were from the West, bringing grass pollen from the suburban districts and the country. But while the winds were favorable to distribution, at no time during the month were there more than four consecutive days without rain. It will be noted that the peak of the grass season was reached on the day after a strong southwest wind had filled the air with pollen A rainy period in the middle of the month accounts for the sudden drop in the plate counts. The government weather bureau reports the normal number of days of sunshine, clouds and rain for June. During July, August and September, the prevailing winds were mostly from the East and Northeast. However, these lake winds were never as strong as from other directions, and a fairly uniform amount of pollen was found on all slides. As there was no great difference between slides within a few rods of the lake and those miles away during a period of lake winds, it must be assumed that upper air currents carried the pollen out over the lake, and surface winds brought it back.

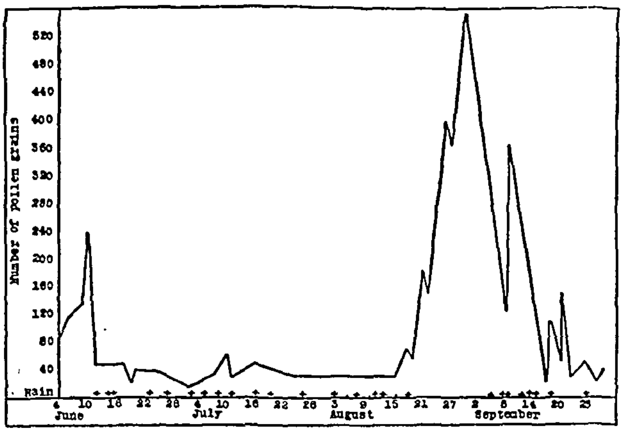

Fig. 7.—Results of total plate counts of pollen of all species.

The fall season began, August 15. With almost no rain from this time until the second week of September, the air became loaded. The two abrupt drops in the curve during early September were due to rains. The records for September 9 and 19 show what a strong Southwest wind can do in stirring up pollen. It is to be regretted that unfavorable weather conditions artificially terminated both pollen waves.

Clinical Notes, Suggestions, and New Instruments

EFFECTS OF INSULIN AND GLUCOSE ON ACID-BASE BALANCE IN SURGICAL DIABETIC PATIENTS *

R. B. GIBSON, PH.D., IOWA CITY

The importance of the preoperative preparation of diabetic patients by building up a glycogen reserve and by administering insulin or insulin and glucose has been repeatedly emphasized.[1] In this clinic it is routine to give our patients 40 Gm. of glucose by mouth or hypodermoclysis and from 5 to 20 units of insulin, according to the severity of the diabetes, from one to two hours before major operations. When insulin and glucose are administered to diabetic patients in this way, there is a distinct shifting of the acid-base balance of the blood plasma to a greater alkalinity, and this change is still evident in the critical postoperative period.

Some determinations of the plasma p_H (Cullen) and of the carbon dioxide (Van Slyke) in diabetic patients are given in the accompanying table. These were all insulin cases. Blood samples were taken before insulin and glucose were administered, just previous to operation, and again from one to two hours after the patients were returned to the ward. In the control tests, essentially the same relations obtained. Patients were operated on under ethylene-ether anesthesia. Postoperative urine specimens were free from acetone and diacetic acid. The action of insulin and glucose so administered is to induce a persisting and only partially compensated alkalosis (Van Slyke). While antiketogenic combustion or "mass action"[2] of the glucose may be considered to some extent responsible, it is probable that a combination of phosphoric acid into a carbohydrate complex[3] frees the strong bases of the tissue and blood phosphates. A new factor influencing acid-base balance is suggested. The insulin "shock" following massive doses of insulin and glucose described by Foshay[4] may well be an alkalosis syndrome.

The Acid-Base Balance After Insulin and Glucose Administration *

Case	Plasma		Blood Sugar	Comment
	p_H	Carbon Dioxide		
1. Fasting.........	....	....	...	No breakfast
Preoperative ...	7.50	73	198	Amputation, thigh
Postoperative...	7.46	69	118	
2. Fasting.........	7.38	50.4	68	No breakfast
Preoperative....	7.40	60.7	245	Cholecystectomy
Postoperative...	7.36	54	332	Glucose by rectal drip
3. Fasting.........	7.43	58	243	No breakfast
Preoperative....	7.51	64	311	
No operation....	7.49	60.7	165	Control test
Shock...........	7.43	57	44	Additional insulin; threshold symptoms
4. Fasting.........	7.45	59.5	83	No breakfast
Preoperative....	7.58	63.3	130	
No operation....	7.53	61.7	104	Control test
	7.50	59.5	128	Breakfast, usual insulin
Preoperative....	7.55	68	228	Amputation, below knee
Postoperative...	7.52	59.5	137	

* All the patients received insulin 20 and glucose 40 except patient 3, who was given insulin 25 and glucose 50.

Austin and Cullen,[5] reviewing some earlier observations, note that the concentration of alkali carbonate and especially the p_H, tend to become abnormally high in diabetic patients treated with an excess of insulin. That the effect is further intensified by insulin and glucose administration in controlled cases and persists even over a period of anesthesia and operative procedure is indicated from our figures. The change is independent of any hypoglycemic state.

GALLSTONES IN CHILDREN

J. D. CAREY, M.D., FORT COLLINS, COLO.

F. B., a girl, American, aged 9 years and 3 months, weighing 65 pounds (29 Kg.), who was referred by another physician for operation for appendicitis, always had been well except for the usual diseases of childhood, until two years previously. Since then, she had had attacks of abdominal pain of such character and severity that she was compelled to be absent from school on an average of four days each month. The pain was located in the right side, associated with vomiting, slight fever and a small degree of rigidity. Attacks would come on suddenly and confine her to bed for a period lasting from two to four days. There was no jaundice or clay colored stools; the bowels were regular, and no digestive disturbance occurred between attacks. The appendix was removed and showed signs of slight chronic inflammation, though not sufficient, in my opinion, to cause the amount of trouble that the girl was having. The pelvis was normal on examination; the gallbladder was greatly distended and an oval stone 1 inch (2.5 cm.) in diameter, was lodged in the common duct. The gallbladder was removed and the wound closed. The recovery was uninterrupted.

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* From the Laboratory of Clinical Chemistry, Department of Internal Medicine, State University of Iowa College of Medicine.

[1] Wilder, R. M., and Adams, S. F.: Present Status of the Diabetic Patient as a Surgical Risk, Wisconsin M. J. **22**: 557 (May) 1924. Barborka, C. J.: Insulin in Surgical Complications of Diabetes Mellitus, M. Clin. N. America **7**: 25 (July) 1923. Joslin, E. P.: Treatment of Diabetes Mellitus, 1924, p. 615. Pemberton, H. S., and Cunningham, L.: The Use of Insulin in Operations on the Diabetic, Lancet **2**: 647 (Sept. 27) 1924.

[2] Wirzuchowski, M.: [illegible] Bodies in Presence of Unoxidized Sugar in [illegible] Dogs, Proc. Soc. Exper, Biol. & Med. **22**: [illegible]

[3] Harrop, G. A., and Benedict, E. M.: The Participation of Inorganic Substances in Carbohydrate Metabolism, J. Biol. Chem. **59**: 683 (April) 1924.

[4] Foshay, L.: Observations upon the Action of Insulin on the Blood, with Special Reference to the Cause of the Condition Known as Hypoglycemia, Am. J. Physiol. **73**: 470 (July) 1925.

[5] Austin, J. H., and Cullen, G. E.: Hydrogen Ion Concentration of the Blood in Health and Disease, Medicine **4**: 275 (Aug.) 1925.

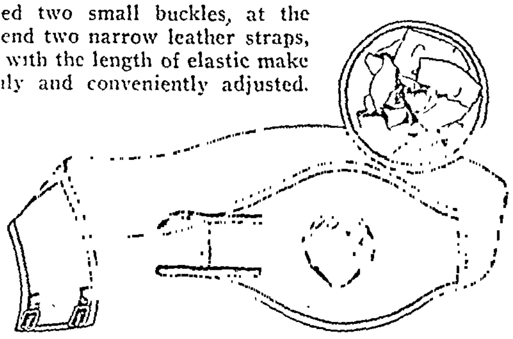
I find that cholelithiasis in childhood is a rare event, and that there have been very few cases reported. Paterson and Wyllie[1] of London reported, in 1925, a case similar to this in which the appendix was removed without relief, and at a later date the gallbladder was examined and five or six small stones were found. Still collected from the literature reports of twenty-four cases in children under the aged of 14; however, in ten of these the condition was of congenital origin, the calculi being discovered in infants who had died within the first few months of life. While this condition is very rare, I believe that every child, irrespective of age, who has an abdominal operation, is entitled to an examination of the gallbladder.

A NEW COLOSTOMY BELT

John W. Neely, M.D, Terrell, Texas

The great boon that colostomy has been to a certain type of colon surgery has, from the esthetic standpoint, always been more or less neutralized by the burden and detriment to the patient's peace of mind, because of the proper care that it necessitates on his part. Therefore, any appliance more convenient, cleanly and comfortable than those now in use is worthy of description.

A patient of mine who has a colostomy has recently designed such a belt. It consists of two parts; the first is the belt, which is made of two pieces of canvas joined by an elastic band. At one end of the belt are attached two small buckles, at the other end two narrow leather straps, which with the length of elastic make it easily and conveniently adjusted.



New colostomy belt.

In the larger piece of canvas there is inserted a metal ring about 4 inches (10 cm.) in diameter. This ring is intended to fit round the two ends of the intestine forming the colostomy, as shown in the illustration. The other part is the colostomy cap, which fits the ring.

To apply the belt, the cap is inserted into the ring and covered with from six to twelve strips of ordinary toilet paper, long enough to reach across the cap. The paper is then pushed into the recess of the cap with the fist and placed over the colostomy. When it is necessary to change, the patient simply grasps the paper by its ends and throws it into the toilet. Advantages of this belt are:

1. It is easy to change, as everything is caught in the toilet paper and thrown away. There is no cleaning, washing or disinfecting.
2. It is convenient, as only toilet paper is used, and nothing has to be carried around for emergency.
3. It is soundless, as the paper muffles sound. The loudest escaping gas may be instantly stopped by a slight pressure on the outside of the clothing.
4. It is odorless, as the paper and cloth check odor in ordinary conditions of the bowels; in extreme conditions, any reliable deodorant can be sprayed on the cap and paper before the belt is applied.
5. It is comfortable to wear; there are no metal parts or bag to cramp or interfere with the freedom of the body.
6. It is not bulky; it permits the clothing to lie naturally, and ordinarily is entirely unnoticeable.

Label Building.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 1131)

Effervescent Powders: These are composed of the medicinal agent in admixture with an alkaline bicarbonate and an organic acid. They form a very convenient method of administering various salts in effervescing solution, the effervescence rendering them more agreeable to the palate, more acceptable to the stomach, and favoring their absorption. The effervescence is produced by the presence of nearly molecular proportions of sodium bicarbonate, 83.5 parts, and citric acid, 70 parts, or tartaric acid, 75 parts; or both acids, the citric acid procuring better granules, the tartaric acid being less expensive. When this mixture is thrown into water, the vegetable acid liberates carbon dioxide, which causes the effervescence; a slight excess of acid is generally permitted to give a pleasant acidulous taste. To this effervescing mixture the medicament is added in such proportion that the dose of the powder may be a teaspoonful (about 4 Gm.), a dessertspoonful (about 8 Gm.), or a tablespoonful (about 16 Gm.). The powders are mixed dry. If desired in granular form, they are then granulated by heating them between 93 and 104 C., until the mass coheres sufficiently to form small granular lumps after being rubbed through a coarse sieve. However, the ungranulated powder is just as efficient and useful in every way as the granular powder, and it can be dispensed extemporaneously by the pharmacist.

Effervescent Salts of N. F.

	Dose in 180 Cc. of Water
Effervescent artificial Carlsbad salt, N. F.	4 Gm.
Effervescent artificial Kissingen salt, N. F.	4 Gm.
Effervescent artificial Vichy salt, N. F.	4 Gm.

In addition to these, it has formulas for:

	Average Dose	Containing of Active Ingredient
Effervescent lithium citrate.......	8 Gm.	0.4 Gm.
Effervescent magnesium sulphate..	16 Gm.	8.0 Gm.
Compound effervescent potassium bromide......................	6 Gm.	0.50 potassium bromide 0.25 lithium carbonate 0.05 caffeine

These powders should be kept and dispensed in tightly stoppered bottles, as the moisture of the atmosphere causes a slow reaction to take place between the ingredients, with consequent impairment or even loss of effervescence. When wanted, the dose is put in half a tumblerful of water and taken during effervescence.

Almost any salt or mixture of salts that is nondeliquescent may be prescribed in effervescing form.

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[1] Paterson, Donald; and Wyllie, W. G.: Abdominal Pain Due to Gallstones, in Child Aged Nine Years, Am. J. Dis. Child. 29: 516 (April) 1925.

* This is the sixteenth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

The Pharmacopeia recognizes the effervescing sodium phosphate, the average dose of which is 4 Gm. It is deservedly one of the most popular laxative salines.

The National Formulary contains a number of useful formulas for effervescent salts that enable us to produce artificial mineral waters resembling the natural mineral waters in the essential ingredients.

The writing of extemporaneous prescriptions for effervescent salts is facilitated by remembering that it takes 18 parts of tartaric acid (or 17 parts of citric acid) to neutralize 20 parts of sodium bicarbonate. If, therefore, we desire to prescribe a mixture of sodium salicylate, 1 Gm., and potassium bromide, 2 Gm.,[39] in effervescing form for the relief of migraine, and assuming that a heaped teaspoonful of the finished product might weigh about 5 Gm., we would write:

℞ Sodium salicylate .... 20 Gm.
Potassium bromide .... 40 Gm.
Sodium bicarbonate .... 20 Gm.
Tartaric acid .... 18 Gm.
Dispense in bottle.
Sig. Heaped teaspoonful in tumberful of water every hour, as required, for attack of migraine.

Because it is more portable as well as more permanent and the dosage is more accurate, the dispensing of this prescription in two separate powders like the seidlitz powders, might be preferable. It would then be written:

℞ Sodium salicylate .... 10 Gm.
Potassium bromide .... 20 Gm.
Sodium bicarbonate .... 10 Gm.
Mix and divide into ten blue powder papers.
Tartaric acid .... 9 Gm.
Divide into ten white powder papers.

In the treatment of acute articular rheumatism, the most efficient remedy is sodium salicylate in 1 Gm. doses for a man (0.6 Gm. for a woman). This is usually guarded by sodium bicarbonate (at least 1 Gm.) against precipitation by the hydrochloric acid of the stomach, and by indirect alkali such as sodium citrate[40] (1 Gm.) because some of the phenomena of salicylism are believed to be due to acidosis. To secure the promptest possible systemic action with the least unpleasant effect on the stomach, this mixture is best administered in a tumblerful of effervescing water. Where "seltzer water" is not readily available, it is well to add to each dose the effervescing mixture of 1 Gm. of sodium bicarbonate and 0.9 Gm. of tartaric acid, and to prescribe the acid powder to be dispensed separately in a white powder paper. The remainder of the powder is dispensed in a blue powder paper; and one of each of the powders is mixed in a tumbler three-fourths full of water. The dose is taken every hour until one of three things happens: the pain is relieved, the ears sing, or the patient sweats excessively. Then the dose is given every two hours for several days, then every three hours, and finally every four hours, so as to continue the remedy for at least two weeks after all pain and fever have disappeared. During all this time it is essential that the patient be at absolute rest in bed, even to the extent of using bed pan and urinal. Otherwise, relapses are almost bound to occur.

Teas (species).—These are mixtures of very coarsely comminuted vegetable drugs intended for the domestic preparation of infusions or decoctions. They are a relic of bygone days, when the service of skilled pharmacists was not generally available. Nowadays they are practically never prescribed by physicians, though they are occasionally called for by the laity. To supply this demand, the National Formulary contains formulas for laxative species (St. Germain tea) and pectoral species (breast tea). A teaspoonful of either of these is added to a cup of boiling water, permitted to steep for about ten minutes, strained, and taken while still warm. People should, of course, never be trusted with such unreliable and irresponsible preparations of potent remedies.

TABLETS

Tablets are medicated powders formed into disks of convenient size, without the use of a cohesive. When a cohesive is used, the result is spoken of as a lozenge. Tablets that are slow in disintegration are essentially pills. Tablets are most commonly made by compression in a machine (compressed tablets). They may also be prepared by mixing the powder with a volatile liquid so as to form a mass, which is then molded into disk shape by means of a suitable apparatus, and exposed to the air dry. The result is a tablet triturate.

By whatever process these disks are made, they may be considered acceptable if they meet the following requirements: When placed in water they should disintegrate within a few minutes, and with the aid of not more than gentle agitation. When dry, they should be crushable into powder without difficulty by the pressure of a thumb. Still, they should possess sufficient firmness so as not to crumble and wear away at the edges when subjected to ordinary handling.

Compressed tablets usually differ from tablet triturates not only in containing pure medicaments without diluents, and in being made by compression machines, but also in shape, having oval instead of flat faces. Substances in the form of granules or small crystals can readily be compressed into tablets without preliminary manipulation. Fine powders must be formed into granules before they can be satisfactorily fed to the tablet-making machine. This accounts for the mottled appearance of many compressed tablets containing mixtures.

A matter of the greatest possible importance is the rate of disintegration of the tablet. Unless the tablet is to be used as a lozenge or intended to act as a pill, speedy disintegration must be secured. Improperly compressed tablets containing insoluble substances have been known to pass through the entire alimentary tract and to appear undissolved in the stool. Hence compressed tablets containing slowly soluble or insoluble bodies, such as quinine sulphate or charcoal, must be made so as to disintegrate rapidly, which can be done by the admixture of either starch, which swells in water and thus disintegrates the tablet, or of sodium bicarbonate and citric or tartaric acid, which by their effervescence produce disintegration. Such tablets must be kept carefully protected against moisture; otherwise, the "disintegrating" agent will become ineffective. Resinous substances should not be prescribed without liberal admixture of a soluble diluent, as otherwise they may not disintegrate. The addition of a slight trace of liquid petrolatum is also useful in preventing the drug from packing too firmly together.

The "tablet triturate" possesses certain advantages over compressed tablets; indeed, over other solid dosage forms. Well made tablet triturates disintegrate immediately on being placed in water; thus, they have the same degree of solubility as powders, over which they have the advantage of being swallowed more readily and conveniently. They are more soluble than capsules, pills and compressed tablets. They are prepared by triturating the medicament with sucrose, lactose or other inert soluble substances, and then moistening the powder with sufficient alcohol to make a paste. This is pressed into molds consisting of a plate perforated with holes of the desired size of the tablet. The tablets thus shaped are pressed out of the holes by means of another plate having pegs that accurately fit the perforations. When the alcohol evaporates, which requires only a few minutes, the tablets retain their shape and are ready for use.

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[39] Sodium bromide is less desirable for this purpose, as it absorbs moisture from the air.

[40] Potassium citrate is deliquescent.

Tablet triturates are generally made to weigh about 0.05 Gm. each; hence they are suitable for the administration only of medicines the dose of which is small, such as calomel, morphine sulphate, aconitine, and arsenic trioxide. The "hypodermic" tablets so useful for the preparations of solutions for injection are prepared in this manner.

The tablet saturate might also be referred to here, though it is rarely used nowadays. It is a sugar tablet, originally made without medication (so-called blank tablet), which is medicated by the addition of a drop of alcoholic solution. The alcohol is then allowed to evaporate. Obviously, aqueous or weakly alcoholic fluids cannot be used for this purpose.

Substances that are unsuitable for prescribing in powder form are also not fit for tablet administration. Suitable for this purpose are those powders whose dose is small; at any rate, not much larger than 0.3 Gm., the usual size of compressed tablets. If the dose is much smaller, it is converted into a trituration by being mixed with sugar of milk, sugar or other diluent powder, and formed into a tablet triturate. For large doses, several tablets may be taken at one time. Tablets as large as 1 Gm. are made; but these are intended for solution before use.

Tablets have become, within the few years of their existence—they were introduced by Dr. Robert M. Fuller in 1878—one of the most popular of administration forms. This is because, by means of suitable machinery, they can be manufactured very cheaply on a large scale; and manufacturers have done their best to introduce them, most especially among physicians who dispense their own medicines. To retail pharmacists, on the other hand, tablets have not been very welcome, partly because they are somewhat more troublesome to prepare on a small scale than powders, capsules or pills, but chiefly because they require a special machine. This is rather unfortunate, because for certain purposes extemporaneously made tablets are unexcelled. It is also a rather erroneous attitude on the part of the druggist, because small, inexpensive tablet machines operated by hand are on the market, and the technic is certainly not beyond the powers of comprehension and skill of a well trained pharmacist. However, as the situation stands at present, physicians should not prescribe other than ready-made tablets, such as they know the pharmacist carries in stock, unless they are so fortunate as to have available the services of a pharmacist sufficiently interested and ambitious to equip himself to prepare tablets extemporaneously. Even then it will be more convenient and less expensive for the pharmacist to have all those tablets that are used very extensively manufactured by power driven machines.

Tablets are sometimes swallowed as a whole. Then they have no advantage over pills or capsules other than the manufacturer's convenience. They may be dissolved before use, as is done with hypodermic tablets and with those intended for topical employment, as, with the official poison tablets of corrosive mercuric chloride. These weigh 1 Gm., and contain 0.5 Gm. of corrosive mercuric chloride, with sodium chloride or ammonium chloride forming the remainder. They are colored blue, made of angular shape, preferably coffin-shaped, not discoid, and directed to have the words "poison" and the skull and cross bones design distinctly stamped on them. Another example of tablet for topical use is "Seiler's tablets," which, dissolved in a wineglassful of water, yield an alkaline lotion suitable for nose or throat.

A special use for tablets in which they are unexcelled is for "candy medication," an administration form especially suitable for children. The idea of presenting medicine in candy form is as old as are confections and lozenges. These have not become generally popular, because what is sometimes called palatable is not always really delicious. To be successful, candy medication[41] must meet the following requirements: It must be a perfectly delicious sweet, attractive in form, color and odor, and free from the suspicion of disagreeable or medicinal taste or odor. It must disintegrate rapidly in the mouth, for a sick child will usually not suck candy as a healthy youngster would. These requirements are met by sugar tablets, medicated with tasteless or nearly tasteless and yet active substances. Modern synthetic chemistry has enriched our resources in this respect to a surprising degree.

The new National Formulary will contain formulas for the following sweet tablets, which may be prescribed by merely giving the official name: tablets of mild mercurous chloride, each containing 0.006 Gm. of mild mercurous chloride; tablets of phenolphthalein, containing 0.06 Gm. of phenolphthalein; tablets of santonin, containing 0.03 Gm. of santonin, and compound tablets of santonin, containing 0.03 Gm. of santonin and 0.03 Gm. of mild mercurous chloride.

Quite a number of other substances can be given in the same form. Were a general formula for a base for sweet tablets desired, it might be found in the formula for vanilla cacao sugar.

Vanilla Cacao Sugar

Tincture of vanilla	5 Cc.
Cacao powder	10 Gm.
Dextrose*	10 Gm.
Sucrose, powdered	80 Gm.

Mix thoroughly by trituration in a mortar, and preserve in a well stoppered bottle.

* The dextrose seems to be of advantage in the shaping of the tablet by the machine, but is not absolutely necessary.

Mixing this sugar preparation with the proper amount of medicament in such proportion that it is contained in 0.3 Gm. yields a powder that is ready for compression in the tablet machine. This forms a fairly satisfactory vehicle for children's doses of saccharated ferrous carbonate, arsenic trioxide, phenetsal (salophen), atropine sulphate, methenamine (hexamethylenamine U. S. P. IX), calcium iodobehenate (sajodin), terpin hydrate, albumin tannate, and a number of others.

For substances that have a slight flavor of their own, such as thyroid, sulphur or podophyllum, cinnamon cacao sugar is better. The latter may be prepared by substituting 0.5 cc. of a 10 per cent spirit of cinnamon for the tincture of vanilla in the formula for cacao sugar. A number of almost insoluble substances of slight but lingering taste (quinine ethyl carbonate, acetphenetidin, digitalis, ipecac) can be made perfectly pleasant by impregnating them with gluside (saccharin) by trituration with a 2 per cent alcoholic solution of gluside containing also 2 per cent of tolu,[42] and permitting the alcohol subsequently to evaporate.[43]

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[41] Fantus, Bernard: Candy Medication, J. A. M. A. **66**: 26 (Jan. 1) 1916; St. Louis, C. V. Mosby Company, 1915.

The prescribing of ready-made tablets is very simple. We write:

℞ 15 tablets of mild mercurous chloride (N. F.).. 0 006 Gm.
Label: One every hour until six, five, four are taken on three successive days.

When extemporaneous tablets are desired and a pharmacist is available who is equipped to make them, it is customary to designate the quantity of medicament wanted in the total number of tablets and the total quantity of diluent to be used to make up tablets of the desired weight (0.18 or 0.30 Gm.) and to order the pharmacist to divide this powder into the required number of tablets. Thus, should we desire to prescribe sweet tablets of arsenic trioxide and ferrous carbonate, we might write:

℞	Arsenic trioxide	0 03 Gm
	Saccharated ferrous carbonate..	2 00 Gm
	Cacao (10 per cent) sugar, vanilla flavored .	8 00 Gm

Divide into thirty tablets
Label: One three times a day after meals.

Besides the sweet tablets mentioned, the National Formulary will contain a formula for tablets of sodium bicarbonate (0.25 Gm. each, flavored with oil of peppermint), the "soda-mint" tablets, so popular with certain dyspeptic patients. There is also a formula for charcoal tablets, each of which contains 0.3 Gm. of animal charcoal, any required number of which one would rather swallow than to drink a suspension of the powder in water. The same might perhaps be said of the tablets of sulphur and potassium bitartrate, which contain only 0.2 Gm. of washed sulphur and 0.06 Gm. of potassium bitartrate, so that quite a number of them will have to be taken to constitute a medicinal dose.

Confections.—Confections, also known as electuaries, are soft, pasty solids composed of medicinal agents, sugar and flavoring matter intended to be eaten, or dissolved in the mouth, like candy. They were never very popular, and are now used even less frequently than formerly, having been displaced by their dosage form, the lozenges. Confections are dispensed in jars or in wide mouthed bottles. Small lumps of a size approximating some familiar object, or spoonfuls are directed to be taken at a time. Inexactness of dosage is one of their disadvantages, and they do not keep well.

Only two confections are official in the National Formulary: the confection of rose and the confection of senna. The former might be considered a basic confection to be suitably medicated. The latter, a laxative that might be given in 4 Gm. doses even to a child, is not much used or generally kept in drug stores, probably because a more pleasant confection can be prepared at home by mixing equal parts of senna leaves, figs, seedless raisins, and prunes and dates, freed from stones. These are chopped and mixed in a chopping bowl, and rolled into cylinders as thick as a thumb, to be cut into slices of a size appropriate to the size and age of the patient.

A domestic recourse, not sufficiently resorted to in pediatric practice, is to prescribe the medicine—which must be relatively inoffensive—in powder form, and to have it made into a confection at home by admixture of any desired marmalade or sweet preserve.

(To be continued)

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[42] Fantus, Bernard: Tolu and Sugar Coating in the Disguising of Medicines, J. Am. Pharm A 7: 249 (March) 1918.

[43] Detailed working formulas for these have been published in the Journal of the American Pharmaceutical Association (10: 533 [July] 1921).

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

TYPHOID VACCINE (See New and Nonofficial Remedies, 1925, p. 360).

The Cutter Laboratory, Berkeley, Calif.

Typhoid Paratyphoid Prophylactic.—Marketed in packages of three vials, one vial containing 500 million killed typhoid bacilli, 375 million killed paratyphoid A bacilli and 375 million killed paratyphoid B bacilli per cubic centimeter, and two vials each containing 1 billion killed typhoid bacilli, 750 million killed paratyphoid A bacilli and 750 million killed paratyphoid B bacilli per cubic centimeter; in packages of one 20 cc. vial containing 1 billion killed typhoid bacilli, 750 million killed paratyphoid A bacilli and 750 million killed paratyphoid B bacilli per cubic centimeter; and in packages of one syringe containing 1 billion killed typhoid bacilli, 750 million killed paratyphoid A bacilli and 750 million killed paratyphoid B bacilli per cubic centimeter.

COD LIVER OIL.—Oleum Morrhuae.—For description see the U S. Pharmacopeia and Useful Drugs.

Parke, Davis & Company's Standardized Cod Liver Oil.—It has a content of fat soluble vitamin-A which is not less than 440 units per gram, and an antirachitic potency of not less than 59 units per gram.

Dosage—Infants, from 1 to 2 cc. (15 to 30 minims); older children, from 2 to 4 cc. (30 to 60 minims); adults, 4 cc (1 fluidrachm) or more, three times a day.

Manufactured by Parke, Davis & Co, Detroit. No U. S. patent or trademark

Parke, Davis & Company's standardized cod liver oil complies with the standards of the U S Pharmacopeia. In addition, it is required to have a content of fat soluble vitamin A, determined by the method of the U S P, equivalent to 440 units (one unit being the amount required to correct both the induced xerophthalmia and retarded growth of young albino rats) and an antirachitic potency when determined by the method of McCollum, Simmonds, Shipley and Park (*J. Biol. Chem* **51:** 41 [March] 1922) of not less than 59 units (one unit being the amount of cod liver oil required daily to initiate recalcification in the leg bones of young albino rats).

PITUITARY SOLUTION, U. S. P. X OBSTETRICAL-WILSON.—An extract of the posterior lobe of the pituitary body of cattle, preserved by the addition of chlorbutanol, each cubic centimeter containing 0.005 Gm. It is standardized by the method of the U. S. Pharmacopeia to have the strength of Solution of Pituitary, U S P.

Actions, Uses and Dosage.—See Pituitary Gland, New and Nonofficial Remedies, 1925, p. 260.

Manufactured by The Wilson Laboratories, Chicago No U. S. patent or trademark

Ampoules Pituitary Solution, U S. P. X Obstetrical Wilson, 0 5 cc

Ampoules Pituitary Solution U S. P X Obstetrical Wilson, 1 cc.

SCARLET FEVER IMMUNITY TEST (See THE JOURNAL, Jan 16, 1926, p 199).

Lederle Antitoxin Laboratories, New York

Scarlet Fever Streptococcus Toxin for the Dick Test Lederle—Prepared by growing the scarlet fever streptococcus in broth, using culture Dick I or Dick II obtained from the Hygienic Laboratory or culture no 55 4 obtained from the New York City Department of Health Marketed in packages of one vial containing toxin, which has been diluted with physiological solution of sodium chloride and preserved with 0 25 per cent of phenol sufficient for ten tests; in packages of one vial containing 0.1 cc of a concentrated toxin solution containing 66 6 per cent glycerol, sufficient for 100 tests, and a vial of 10 cc of physiological solution of sodium chloride containing 0 25 per cent phenol for diluting the toxin, so that 0 1 cc of the dilution will give a typical Dick reaction

Scarlet Fever Streptococcus Toxin Lederle—Prepared by growing the scarlet fever streptococcus in broth, using culture Dick I or Dick II obtained from the Hygienic Laboratory or culture no 55 4 obtained from the New York City Department of Health Marketed in packages of four vials of toxin diluted with physiological solution of sodium chloride containing 0 25 per cent phenol and containing, respectively, 500, 1,000, 2,500 and 5,000 skin test doses; in packages of four 20 cc vials of toxin diluted with physiological solution of sodium chloride containing 0 25 per cent phenol and containing, respectively, 500, 1,000, 2,500 and 5,000 skin test doses per cubic centimeter, in packages of forty vials of toxin diluted with physiological solution of sodium chloride containing 0 25 per cent phenol, ten containing 500 skin test doses, ten containing 1,000 skin test doses, ten containing 2,500 skin test doses, and ten containing 5,000 skin test doses

DEXTROSE (See THE JOURNAL, Dec. 12, 1925, p. 1891). The following dosage form has been accepted:

Ampules Dextrose 50%, 50 cc—Each ampule contains 50 cc of a 50 per cent solution of dextrose, U. S P.

Prepared by Swan Myers Company, Indianapolis.

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SATURDAY, APRIL 17, 1926

THE PATHOLOGY OF SCURVY

General knowledge of the pathology of scurvy dates back to Lind's classic Treatise on the Scurvy, published in 1772. Hess[1] has designated Barlow's publication in 1883, establishing the identity of the scurvy of adults and of infants, as the modern milestone in the study of the disorder, so that "Barlow's disease" is no longer looked on as a distinct entity. The theories of its etiology have been varied. For many years the potassium deficiency theory, suggested by Garrod, gained wide acceptance. That scurvy should be attributed to a lack of this element is, as Hess remarks, readily comprehensible in view of the abundance of potassium in the antiscorbutic foodstuffs, the fruits and the vegetables. The citric acid theory had "a short but popular career," as did the hypothesis including acidosis as the etiologic factor. Not a few persons have held to a theory of toxic injury, believing that poisons responsible for the appearance of scurvy are either consumed in the food or formed in the bowel by bacterial agencies. Toxins of alleged microbic origin have formed a favorite theme, almost since the birth of modern bacteriology, for exploitation in relation to the genesis of disorders of obscure origin; there has often been a sort of contest for favor in the eyes of students between the postulate of a specific detrimental bacterium and the mysterious pathogenic toxin. The hypothesis that scurvy is an expression of severe constipation had a short-lived existence, because the known facts will not square with it. Today there is all but universal acceptance of the interpretation of scurvy as an avitaminosis—an expression of the lack of the labile vitamin C in the diet. The vitamin hypothesis has been tested experimentally on various species, beginning with the investigations of Holst and Froelich in 1912. As a result, it has become possible to reproduce the symptoms, to test remedial agents, and to examine in detail the defects when they arise in the organism as well as the reparative changes induced by antiscorbutic treatment.

In the study of the histopathology of scurvy, lesions of the bones were early identified and established as characteristic. Hess has pointed out that attention was focused so exclusively on the bones that for many years, indeed until recently, the other organs of the body were neglected. This is true of the gross as well as of the microscopic anatomy. Consequently, more than usual interest centers in the detailed investigations of Wolbach and Howe[2] of Boston on the morphologic concomitants of the condition of complete scorbutus and the immediate responses in repair. In the introductory contribution to the newly launched *Archives of Pathology and Laboratory Medicine*, published by the American Medical Association, Wolbach and Howe characterize scurvy as inability of the supporting tissues to produce and maintain intercellular substances. Direct proof of this conclusion has been obtained in study of teeth in regard to dentin, in the study of growth and repair of bone in regard to bone matrix, and in the study of repair of soft tissue in regard to the collagen of connective tissues. Localized hemorrhages are a common and conspicuous symptom in scurvy. These studies suggest that the extravasations of blood may be due to a lack of cement substances in the blood vessels, in harmony with the researches of Aschoff and Koch[3] on human material. Wolbach and Howe assert that the proliferative power of epidermis, endothelium, fibroblasts and osteoblasts is not diminished in scorbutus. They believe that the failure of capillary formation can be explained reasonably, according to knowledge of other intercellular substances, as due to failure of endothelial cells to form cement substance. In the light of their histologic examinations, the Boston pathologists advance the theory that the failure of cells to produce intercellular substance in scorbutus is due to the absence of an agent common to all supporting tissues which is responsible for the setting or jelling of a liquid product.

Such considerations suggest a new approach to the study of the physiology of intercellular materials. It is noteworthy that the various avitaminoses are beginning to show their histologic pathogenesis. The more spectacular features of vitamin deficiency—the subtle modes of production, the astounding recoveries, and the minute amounts of actual dietary substance that determine nutritive success instead of disorder—are being supplemented by the laboriously secured substantial evidences of the underlying morphologic changes. Only recently, occasion arose to record[4] the fact, likewise contributed by Wolbach and Howe,[5] that in protracted deprivation of fat-soluble A vitamin, keratinization of epithelial tissues is the conspicuous pathologic defect. There is a widespread tendency for a transformation of secreting and ductal columnar epithelium, or of transitional epithelium, into the heavily hornified type normally serving for protective purposes. Long known to occur in the eye and parocular glands, the change is now recognized as a more general one in this type of avitaminosis. Following lack of vitamin B, the nervous tissues may become involved; with a shortage of vitamin A it is the epithelium, and in deprivation of vitamin C the connective tissues that are profoundly affected. Such knowledge, firmly established, represents a marked step in advance in the domain of pathogenesis.

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[1] Hess, A. F.: Scurvy, Past and Present, Philadelphia, J. B. Lippincott Company, 1920.

[2] Wolbach, S. B., and Howe, P. R.: Intercellular Substances in Experimental Scorbutus, Arch. Pathol. 1: 1 (Jan.) 1926.

[3] Aschoff, L., and Koch, W.: Scorbut, eine pathologisch-anatomische Studie, Jena, Gustav Fischer, 1919.

[4] A New Feature of Vitamin Deficiency, editorial, J. A. M. A. 85: 2035 (Dec. 26) 1925.

[5] Wolbach, S. B., and Howe, P. R.: J. Exper. Med. 42: 753 (Dec.) 1925.

PRECAUTION IN TONSILLECTOMY

The much discussed problems of tonsillectomy are difficult to approach from any angle without emerging into controversial opinion. The debate frequently is not a calm discussion based on ascertainable facts or indications, but an outburst of fixed convictions delivered with insistence on a preconceived theory. Let us insist at the outset that tonsillectomy has not only its positive indications but also certain presumptive advantages in the pursuit of health: a diseased tonsil is an admitted menace.[1]

Whatever the uncertainties regarding the needs of tonsillectomy may be, there is growing evidence that the operation should not be too lightly regarded. Not every person is included in statistically favorable records of operative benefit. The very circumstance that now and then some writer regards it as worth while to designate the removal of the tonsils emphatically as a major operation directs attention to the uncertainties cropping out in medical minds. In the case of the major risks, the surgeon inevitably dwells on preoperative needs and postoperative dangers; he attempts to foresee and forestall unfavorable consequences.

The growing prominence of tonsillectomy in everyday practice has accordingly attracted attention to possible unpleasant sequelae. To some of these Daland,[2] for example, has directed attention, reviewing the disagreeable complications represented by abscess formation. Myerson,[3] too, has stressed the importance of careful preoperative survey to rule out pulmonary disease and other menacing conditions in the pulmonary tract. A particularly important observation has lately been stressed by Zingher,[4] as the result of his experience in the New York City Department of Health. He has pointed out that diphtheria is likely to develop in a patient who has just been submitted to tonsillectomy and adenoidectomy, if the person is susceptible, as can be shown by a positive Schick test, and if he is a carrier of virulent diphtheria bacilli. While these three factors—absence of general immunity to diphtheria, presence of virulent diphtheria bacilli in the nose or throat, and an operation, such as tonsillectomy—may not come together frequently, Zingher believes that when they are present in the same person diphtheria is quite certain to follow and the disease is likely to prove unusually dangerous. The serious nature of the superimposed diphtheria arises, he adds, from the danger of an early and rapid absorption of a fatal dose of toxin from the extensive raw surface, and the difficulty of recognizing the disease in the sloughing postoperative membrane until much valuable time has been lost and the opportunity for effective administration of antitoxin has slipped by. Diphtheria may also readily develop as a result of a superimposed infection with diphtheria bacilli occurring in a susceptible person from one to two weeks after an operation on the tonsils and adenoids. At this time, the wound has not yet completely healed, and the resistance of the mucous membrane to infection is still below normal.

These considerations are borne out by the records of actual large clinical observation. In view of the findings reported, Zingher recommends that nose and throat cultures for diphtheria bacilli be taken as a routine before such operations as tonsillectomy and adenoidectomy. If the cultures are positive, a prophylactic dose of diphtheria antitoxin should be administered if necessary. In carriers who are to be treated by the removal of tonsils and adenoids, it is especially important to make certain that the patient either gives a negative Schick reaction, or, if a positive Schick reaction is obtained, that he receives a prophylactic dose of diphtheria antitoxin.

The foregoing observed features of tonsillectomy emphasize in a new way the local resistance of the intact normal mucous membranes against invasion through infectious micro-organisms. The regional protection of carriers against localized pathogenic forms and their toxic products represents a mode of highly effective defense that deserves to be better understood. It appears that successful invasion by one harmful infectious agent, such as the diphtheria organism, may break down the previously competent local protection against another harmful implanted form, such as the germ of scarlet fever. In other words, the scarlatinal streptococcus may be present in the throat passages but remain harmless for the time being, until the attack of diphtheria destroys the local resistance of the mucous membrane to infection with this pathogenic organism. Just as the local resistance of the normal mucous membrane may be destroyed by an inflammatory process such as a cold or an infection, it may be impaired by tonsillectomy. Trauma may destroy the nonspecific local protection of the patient.

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[1] Tonsillectomy as Protection Against Infection, Current Comment, J. A. M. A. **83**: 1513 (Nov. 8) 1924.

[2] Daland, Judson: Bronchopneumonia and Abscess Secondary to Tonsillectomy, Arch. Otolaryngol. **1**: 131 (Feb.) 1925.

[3] Myerson, M. C.: Lung Abscess Following Tonsillectomy, Arch. Otolaryngol. **1**: 137 (Feb.) 1925.

[4] Zingher, Abraham: Diphtheria Following Tonsillectomy, Am. J. Dis. Child. **31**: 72 (Jan.) 1926.

THE SPLEEN IN MEASLES—AN OVERLOOKED SYMPTOM

In the course of the current popular pastime of subjecting medicine to criticism from every conceivable angle, it has sometimes been intimated that the twentieth century physician is endeavoring to become a biophysicist and a biochemist rather than a clinician. Generalization of any sort is a venturesome procedure, particularly when it fails to rise above the haphazard method of jumping at conclusions. When a student of the present generation is reminded of "the golden age of bedside diagnosis" in which the unaided organs of sight, sound and touch were trained to remarkable accomplishment, he sometimes wonders whether, after all, the armamentarium of instruments of precision and the cyclopedia of test reactions that he has acquired in the course of his modern training are to be a handicap rather than a help. He reads the admonition of the late Sir James Mackenzie,[1] who, while far from decrying the importance of the advances that have been made by so-called laboratory methods of clinical diagnosis, frankly rates their practical value to the general practitioner as small compared to the information to be gained by recognition of symptoms through avoidance of "the more intricate methods of examination."

Perhaps the student will begin to wonder whether he shall discard his thermometer, stethoscope and manometer. Let him take courage, incentive and inspiration from the fact that the devotees of the simpler methods have not exhausted the possibilities of discovery. One might suppose that none of the common manifestations of a universally familiar disease such as measles had escaped recognition. Verily, physicians unhampered by microscopes or test tubes have observed generation after generation of measles patients. Yet it remained for Koplik,[2] only thirty years ago, to emphasize the significance of the oral rash and mouth spots that commonly bear his name. And only now has it at last been made unmistakably clear through the records of Bleyer[3] of the St. Louis Children's Hospital that enlargement of the spleen should be included in the symptomatology of measles.

He remarks that it is, of course, a common thing in clinical work to encounter a spleen that can be felt below the costal margin; but the almost abrupt appearance of the spleen during the eruptive stage of measles, and the suddenness of its disappearance as the rash subsided, were quite unexpected and prompted an inquiry into the frequency of this phenomenon in this disease. The enlargement is evidently related to the virus of the disease. The change in the spleen is coincident with the eruptive stage of this disease, both as to appearance and as to disappearance, the greatest enlargement as to frequency and size being noted on the third and fourth days of the rash. Contrary to what might be expected, the severity of an attack in these patients does not seem to make the occurrence of enlargement of the spleen higher than is found to be the case in those that ran a milder course. And all of this is the simple finding regarding one of the largest organs in the body in the examination of a few hundred sick children, while half a hundred textbooks have denied, disregarded or debated the symptom.

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[1] Mackenzie, James: Symptoms and Their Interpretation, New York, P. B. Hoeber, 1913.

[2] Koplik, Henry: Arch. Pediat. **13**: 918, 1896.

[3] Bleyer, Adrien: Enlargement of the Spleen in Measles, Am. J. Dis. Child. **31**: 26 (Jan.) 1926.

Current Comment

COLLEGE PHYSICAL EXAMINATION THE START OF A LIFE HABIT

Health examinations on entrance into college or university are becoming the rule rather than the exception. In the majority of institutions, the examination is given after the student has matriculated. Sixty-eight of 152 institutions require the examination before the student is admitted. Of these, fifty-two require that the examination be performed by a college physician; and the remainder, that the student possess a certificate of health from his family physician.[1] The advantages of having the examination made by the college physician who will be in charge of the student's health for the next four years, and of having this examination prior to matriculation, are obvious. The danger is that the enormous amount of work that must be crowded into a few days will lead to undue haste. At the College of the City of New York, where an examination before admission has been required for fifteen years, the danger of haste has been obviated by having numerous examiners and recorders on the spot and by instructing in detail each participant, whether clerk, examiner or examinee, exactly what he is to do and when. In addition, instructions are furnished to meet the emergencies that will arise when some person fails to live up to the system. Perusal of these instructions gives the impression of a multitude of definite objectives, intricately synchronized, as highly developed as a battle offensive. The numerical results at the College of the City of New York are important. They show that students who could not hope to stand the gaff in college or who might be a menace to their associates were excluded from college or their admission was deferred until their physical condition had been sufficiently improved. These results also show the basis on which physical defects were followed up and corrected. But tabular results have no place here, and it may be that the most important objective of all is expressed in the words, "We regard this health examination program as a part of an earnest endeavor to give these boys a convincing experience with scientific medical examinations. We will measurably fail in our work if we do not produce in these young citizens in the making the custom of periodic health examination and the experienced selection of scientific health service after graduation."

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[1] Storey, T. A.: Health Examination a Prerequisite to Matriculation in College, Report at the Society of Directors of Physical Education in Colleges, New York, Dec. 31, 1925.

VETERANS' BUREAU TEST OF CLINICAL THERMOMETERS

An article in this issue[1] presents to many physicians their first knowledge of how a clinical thermometer is manufactured. In part, this article attempts to show that the reputable manufacturer of a clinical thermometer is worthy of confidence and that it is unnecessary to hedge him in with legislation which will increase expense to the physician and the public. Recently, the Veterans' Bureau has had tested 508 thermometers taken at random from a purchased lot of 6,000. The published result[2] shows that "about 3 per cent would be unreliable and about 2 per cent would have unduly large errors." Although this is not a perfect score, it is a creditable one. In this instance, without compulsory legislation manufacturers have demonstrated the intention of turning out dependable instruments. On payment of a small fee, any one can have his thermometers checked by the Bureau of Standards.

KAOLIN IN INTESTINAL DISEASE

Chinese medicine is giving way to Western scientific medicine even in China. Nevertheless, through centuries of experience, Chinese physicians have discovered a number of remedies which Western physicians now use.[3] In Western countries, kaolin has been used in the manufacture of porcelain and toilet powder. Pharmacists have used it as a filtering material, as a base for poultices (cataplasma kaolini, N. F.), as an excipient in the making of pills, and as a dusting powder for wounds and ulcers. It has been recommended for gastric hyperacidity. For centuries, Chinese physicians have used kaolin in fevers and intestinal disorders, including cholera. In the latter part of the nineteenth century, it was being used by Julius Stumpf of Wurzburg, externally for septic wounds and ulcers, and internally in large doses for Asiatic cholera.[4] At the present time experiments[5] seem to confirm the scientific basis of its use. Work in vitro, on animals and on man has demonstrated that it is not an antiseptic agent but that in fluid mediums, if kept in motion, kaolin will carry down with it large numbers of bacteria. More than this, it combines with the toxins and toxic products of cholera, of the typhoid dysentery group of organisms, and, apparently, with putrefactive and proteolytic bacteria. In this way, from 30 to 60 Gm. administered daily will change the intestinal flora of an adult from a predominantly proteolytic to an aciduric type. Recent workers in the field have successfully employed kaolin in Asiatic cholera, bacillary dysentery, chronic ulcerative colitis and acute enteritis. A corollary of this important finding will be that certain groups of inexact thinkers will enlarge on the fact that superstitious and empiric practitioners used kaolin centuries before pharmacology and scientific medicine recognized its value. An accurate mind, however, will recall that the same school of medicine that discovered the use of kaolin also credited the ashes of an ancient comb as a remedy for hairball in the stomach.

AMERICAN IDEALISM IN PUBLIC HEALTH

Geographic distance furnishes sometimes a perspective that permits clear evaluation of accomplishments. A recent Brazilian author[1] has traced the development of modern preventive medicine, dividing it into three periods: the work of Chadwick and the English school; Pasteur and Koch's contributions; American idealism. While the two first steps were epoch making, the actual prevention and control of epidemic diseases depended on the organization of an efficient public health service. This is the task which, according to Clark, the United States has successfully performed for the last twenty years. It demanded a combination of such rare qualities as idealism, philanthropy, generosity, daring, perseverance, and devotion to duty. These the Brazilian scientist could find nowhere else in his historical survey, thus justifying America's leading rôle in modern social medicine. Americans were the first to understand the need of reforming medical education in order to cope with the many-sided problems of social medicine. Their altruism led them to establish public health schools, not only in their own country, but abroad—Brazil, China, England. "American prominence in health work is so obvious that even London, the capital of aristocracy, is reorganizing its university and equipping its public health school with American money." This international spirit in itself represents a contribution of the first rank to modern hygiene. As instances of the practical American spirit, Clark cites the creation of small scattered laboratories, pure food laws, industrial sanitation, hospital service, milk safety campaigns, canned goods, and even the Volstead law. Clark also renders a tribute to the banishment of the terminal disinfection bugbear by the health officer of Providence, R. I. His name, however, is given as Charles Chaplin. One may depend on foreigners for perspective and even appreciation, but when it comes to spelling names, the mind sometimes succumbs to Hollywood.

LACTIC ACID AND MUSCULAR FUNCTION

"The problem of the activity of muscle," Meyerhof has written, "has accompanied physiology, so to speak, from the cradle." It is nothing more than the question as to how chemical energy is transformed in the body into mechanical work. The older theories that the performance of a muscle during contraction is closely analogous to what happens in a heat engine have been abandoned. An acceptable hypothesis, as Howell has pointed out, should explain the mechanism by means of which the shortening of the muscle is produced, the

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1. Noyes, Bradford: Clinical Thermometers, this issue, p. 1239.
2. Report of the U. S. Bureau of Standards on the Results of the Test for Accuracy of Six Thousand Clinical Thermometers, U. S. Veterans' Bureau M. Bull. **2**:402 (April) 1926.
3. Wang, Chi-Chen: Chinese and Western Doctors, Hygeia **4**:154 (March) 1926.
4. Treatment of Cholera and Various Bacterial Affections with Fullers' Earth, Miscellany, J. A. M. A. **47**:2113 (Dec. 22) 1906.
5. Braafladt, L. H.: The Effect of Kaolin on the Intestinal Flora in Normal and Pathological Conditions, J. Infect. Dis. **33**:434 (Nov.) 1923, and University of Chicago Libraries, private edition.

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1. Clark, Oscar: A Folha Medica, Jan. 16, 1926, p. 22.

nature of the energy which is thus transformed into mechanical work, and the origin of this energy from the chemical reactions that take place in the stimulated muscle. Apparently this tissue is a chemodynamic machine in which chemical energy is converted to work without passing through the form of heat. The demonstration of the appearance of lactic acid during contraction in the lack of oxygen or in rigor, and its disappearance on oxidative recovery of the muscle, formed what has been termed the first bridge between *the biochemistry of muscle and its performance* of work. According to the Hill-Meyerhof theory of muscle action, carbohydrate is converted into lactic acid, which is subsequently in part destroyed by oxidation and in part transformed into glycogen retained in the contractile tissue. The genesis of the lactic acid thus becomes a very significant feature of the process. There have been various speculations as to the immediate precursor of the lactic acid in its production from sugar in muscle. Meyerhof,[1] whose work in this field has earned him a Nobel prize, has lately championed methyl glyoxal, $CH_3.CO.CHO$, a carbohydrate derivative readily transformed by tissues and tissue extracts into lactic acid, $CH_3.CHOH.COOH$, under suitable conditions. The successive steps from muscle glycogen to muscle lactic acid are likely soon to be demonstrated with some approach to accuracy in the attempted explanation of what happens during the act of contraction.

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(Continued from page 1137)

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DISCUSSION

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[1] Meyerhof, O.: Beobachtungen über die Methylglyoxalase, Biochem. Ztschr. **159**: 432 (June) 1925.

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Dr. I. D. Metzger, Pittsburgh: In the effort to make use of all the specialties and all the accessory investigations that might be helpful to the patient, we have come to the other extreme in that practically every staff man wants to use every department of the hospital in the care of his patient. There must be absolutely set some definite responsibility on some definite person for the conduct of the case throughout. The good general practitioner is not one who can do everything in medicine, but he is the one who is keenest in determining the needs of each case and the one who has the most efficient specialists at his command. He assumes the responsibility of the case, but nevertheless has these reserves whom he may command. The trouble is that most of the general practitioners feel that the case is lost to them as soon as the specialist gets through. The matter of health examination was brought up this morning. That is the most serious of all problems that the general practitioner has to deal with, and it is that we need to think of in our development of medical education. The matter of history getting is important. Sense of responsibility is the keynote to the physician. In nearly all the teaching hospitals there are men who see that there is correlation in the work. The general hospital does not have that kind of a person, and we have found that the best man to do that for us is a laboratory man. That man ought to be a diagnostician who can go about the hospital in the capacity of consultant.

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CALIFORNIA

Diphtheria Control in San Jose.—The health department of San Jose has conducted an educational campaign against diphtheria for the last four years, and at least 3,000 children have been given toxin-antitoxin. The annual report of the city health department for 1925 shows that only forty cases of diphtheria occurred in the city, which is a great decrease over any other year since 1921. The incidence of other communicable diseases in San Jose maintained about the same average as it did in other cities in the state.

New Welfare Clinic.—Twenty-seven physicians of Santa Monica and vicinity have agreed to give part time free of charge to the work of the recently established Santa Monica Welfare Clinic in order to provide medical service for residents who are unable to pay. The clinic, it is reported, is sponsored by the Santa Monica Welfare Council and by the Women's Welfare Club and by the local branch of the Los Angeles County Medical Society. Dr. Howard Wilson Levengood has been elected chairman of the staff, and Dr. Louis E. Mahoney, secretary.

COLORADO

Typhoid Due to Raw Milk.—There were forty cases of typhoid in Denver from February 26 to March 14, most of which the city health department traced to milk from one dairy. It was found that of the forty patients, twenty-five used milk from one dairy and thirteen from another dairy; then, that the second dairy sold raw milk to the first dairy and was therefore at least indirectly involved in thirty-eight of the forty cases; one patient was the son of the owner of this dairy (although probably not the source); his father bought milk from a ranch whose employee had typhoid some years ago, and the manager himself had it in January. It is significant that milk sold by this ranch to another dairy which pasteurized its milk caused no typhoid along its route. Vigorous action was taken to prevent additional cases; an order was issued requiring all milk sold in Denver to be pasteurized; March 11, twenty-three dairymen attempted to deliver raw milk, and were summoned to court and fined $10 and costs each. Denver already had an ordinance providing that a dairyman selling raw milk must produce it all on his own place. Thus the dairy which apparently was responsible for the outbreak of typhoid had sold raw milk obtained from the ranch, regardless of the ordinance.

DISTRICT OF COLUMBIA

Dr. Hrdlicka Wins British Medal.—The Royal Anthropological Institute of Great Britain announces that the Huxley Memorial Medal for 1927 will be conferred on Dr.

nature of the energy which is thus transformed into mechanical work, and the origin of this energy from the chemical reactions that take place in the stimulated muscle. Apparently this tissue is a chemodynamic machine in which chemical energy is converted to work without passing through the form of heat. The demonstration of the appearance of lactic acid during contraction in the lack of oxygen or in rigor, and its disappearance on oxidative recovery of the muscle, formed what has been termed the first bridge between the biochemistry of muscle and its performance of work. According to the Hill-Meyerhof theory of muscle action, carbohydrate is converted into lactic acid, which is subsequently in part destroyed by oxidation and in part transformed into glycogen retained in the contractile tissue. The genesis of the lactic acid thus becomes a very significant feature of the process. There have been various speculations as to the immediate precursor of the lactic acid in its production from sugar in muscle. Meyerhof,[1] whose work in this field has earned him a Nobel prize, has lately championed methyl glyoxal, $CH_3.CO.CHO$, a carbohydrate derivative readily transformed by tissues and tissue extracts into lactic acid, $CH_3.CHOH.COOH$, under suitable conditions. The successive steps from muscle glycogen to muscle lactic acid are likely soon to be demonstrated with some approach to accuracy in the attempted explanation of what happens during the act of contraction.

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(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

CALIFORNIA

Diphtheria Control in San Jose.—The health department of San Jose has conducted an educational campaign against diphtheria for the last four years, and at least 3,000 children have been given toxin-antitoxin. The annual report of the city health department for 1925 shows that only forty cases of diphtheria occurred in the city, which is a great decrease over any other year since 1921. The incidence of other communicable diseases in San Jose maintained about the same average as it did in other cities in the state.

New Welfare Clinic.—Twenty-seven physicians of Santa Monica and vicinity have agreed to give part time free of charge to the work of the recently established Santa Monica Welfare Clinic in order to provide medical service for residents who are unable to pay. The clinic, it is reported, is sponsored by the Santa Monica Welfare Council and by the Women's Welfare Club and by the local branch of the Los Angeles County Medical Society. Dr. Howard Wilson Levengood has been elected chairman of the staff, and Dr. Louis E. Mahoney, secretary.

COLORADO

Typhoid Due to Raw Milk.—There were forty cases of typhoid in Denver from February 26 to March 14, most of which the city health department traced to milk from one dairy. It was found that of the forty patients, twenty-five used milk from one dairy and thirteen from another dairy; then, that the second dairy sold raw milk to the first dairy and was therefore at least indirectly involved in thirty-eight of the forty cases; one patient was the son of the owner of this dairy (although probably not the source); his father bought milk from a ranch whose employee had typhoid some years ago, and the manager himself had it in January. It is significant that milk sold by this ranch to another dairy which pasteurized its milk caused no typhoid along its route. Vigorous action was taken to prevent additional cases; an order was issued requiring all milk sold in Denver to be pasteurized; March 11, twenty-three dairymen attempted to deliver raw milk, and were summoned to court and fined $10 and costs each. Denver already had an ordinance providing that a dairyman selling raw milk must produce it all on his own place. Thus the dairy which apparently was responsible for the outbreak of typhoid had sold raw milk obtained from the ranch, regardless of the ordinance.

DISTRICT OF COLUMBIA

Dr. Hrdlicka Wins British Medal.—The Royal Anthropological Institute of Great Britain announces that the Huxley Memorial Medal for 1927 will be conferred on Dr.

Ales Hrdlicka, Washington, D. C., who will go to London in November of that year to deliver the Huxley lecture and to receive the medal. This is said to be the second time in twenty-six years that an American has received this award. Prof. William Z. Ripley, Ph.D., of Harvard University, having won the Huxley Medal in 1908. Dr. Hrdlicka has for years been curator of physical anthropology at the U. S. National Museum and has conducted anthropologic expeditions since 1898 in this and other countries. He is editor of the *American Journal of Physical Anthropology,* and the author of numerous books on anthropology and related subjects. One of his late expeditions to study the origin of man ended in October, 1925, with his return to this country from India, Ceylon, Java, Australia and South Africa.

ILLINOIS

Superintendent Appointed.—Dr. Duncan D. Monroe, formerly of Dawson Springs, Ky., has been appointed superintendent of the new $150,000 Madison County Tuberculosis Sanatorium, which will be formally opened, May 7.

Joint Meeting of Radiologists.—The Chicago Roentgen Society and the Central Illinois Radiological Society will hold a joint meeting at Champaign, May 18, during the annual meeting of the Illinois State Medical Society; physicians are invited to attend. Programs can be obtained by writing to Dr. Harold Swanberg, 731 Hampshire Street, Quincy.

Medical Movies.—The Adams County Medical Society, Quincy, held "medical movie night," April 12, when the film by Dr. Lewis G. Cole, New York, on "Gastric Motor Phenomena" was shown, also the film "How the Fires of the Body Are Fed," and several reels of various eye, ear, nose and throat operations on cadavers, through the courtesy of Drs. Walter Stevenson and Ray Mercer; another feature of the program was the report of the health survey of Adams County read by Dr. J. W. H. Pollard, now health officer of Evanston.

Personal.—Dr. Howard L. Metcalf, Springfield, has been appointed medical director of the Springfield Life Insurance Company, and Dr. John C. Eigenmann, Mechanicsburg, assistant medical director.——Dr. Thomas Parran, Jr., U. S. Public Health Service, who has been on duty with the Illinois Department of Health in connection with rural health work, has been relieved; he will go as a representative of this country to the International Health Conference in Denmark in May. A farewell dinner was tendered Dr. and Mrs. Parran at Springfield, March 27.——A farewell dinner was recently tendered Dr. Clarence T. Roome, Evanston, who recently resigned as health officer after fifteen years' service.

Chicago

Medical Care at Eucharistic Congress.—More than 400 Chicago physicians, and thousands of nurses and orderlies, according to *Hospital Progress,* will be available during the International Eucharistic Congress, June 20-24, to care for the health of the great number of persons that is expected to be present. There will be a temporary hospital at St. Mary's on the Lake at Mundelein, Ill., eight first aid stations near Grant Park Stadium in Chicago, where the principal ceremonies will be held, and other stations at the Municipal Pier and at the Coliseum.

Personal.—Dr. Harold Douglas Singer has resigned as medical director of the Illinois Society of Mental Hygiene ——Dr. Emmet Keating spoke on "Medical Policies and How They Affect You" at a luncheon given by the Women's Bureau of the Illinois Manufacturers' Association at the Hotel La Salle, April 10.——Mrs. Theodore B Sachs, superintendent, Chicago Tuberculosis Institute, is a member of a committee that met in New York, April 16, to prepare for the meeting of the International Union Against Tuberculosis and the National Tuberculosis Association in Washington, D. C., in October. Further information about these meetings can be obtained from the Chicago Tuberculosis Institute, 360 North Michigan Avenue.

Dinner to Dr. Davison.—Friends of Dr. Charles Davison, emeritus professor of surgery, University of Illinois College of Medicine, gave a dinner in his honor at the Congress Hotel, April 16, at which a bust of the guest of honor made by Lorado Taft was presented to the University of Illinois. A certificate was presented to Dr. Davison, appointing him attending surgeon emeritus at the Cook County Hospital, on which staff he has served continuously for thirty-two years. Among the speakers at the dinner were David Kinley, L.L.D., president of the University of Illinois; Dr. David J. Davis, dean of the college of medicine; Dr. Edward L. Heintz, an alumnus of the university and chairman of the committee in charge of the dinner; Lorado Taft; Anton J. Cermak, president, board of county commissioners, and Hon. William L. Abbott, ex-president of the board of trustees of the university.

INDIANA

Extramural Postgraduate Courses.—At the invitation of various county medical societies, the Indiana University School of Medicine is conducting postgraduate courses in surgery at Terre Haute, Seymour, Columbus and Madison. The courses are of eighteen hours each and the subjects have been previously agreed on by the societies and the medical school. It is pointed out in the *Journal of the Indiana State Medical Association* that the function of the school is not limited to training new physicians, but includes helping keep physicians abreast of the progress in medicine. The school at Indianapolis includes the medical school, the James Whitcomb Riley Hospital for Children and the Robert W. Long Hospital, which are organized as integral units of the school, the training school for nurses and the medical social service department. The last three years of the course are given in the city and the first year at Bloomington.

Society News.—The Tippecanoe County Medical Society and the Lafayette Dental Society held a joint meeting, recently, at Lafayette; a clinic was held at St. Elizabeth's Hospital and a banquet at the Lafayette Club. William H. G. Logan, M.D., D.D.S., dean, Chicago College of Dental Surgery, and former president of the American Dental Association, gave an address.——Every practicing physician in Rush County is an active member of the county medical society for 1926.——Dr. Henry S. Plummer, Mayo Clinic, Rochester, Minn., conducted a clinic before the Tippecanoe County Medical Society, St. Elizabeth's Hospital, March 11, on "Disorders of the Glands of Internal Secretion," and also addressed the society at a banquet at the Lafayette Club on "Endocrinology."——Dr. Martha Tracy, dean, Women's Medical College of Pennsylvania, Philadelphia, addressed the Muncie Academy of Medicine, Muncie, recently, on "Food and Efficiency."

IOWA

Notice to Tourists.—Information has been received advising tourists crossing Iowa to take advantage of the hard surface roads in the northern part of the state. The local newspapers have advised tourists from east and north to travel to Omaha by way of Sioux City; the roads in southern Iowa have not yet been placed in all-year-round travel condition.

Revocation of License Upheld.—The Iowa Supreme Court, in a decision handed down, March 9, upheld the state board of medical examiners in revoking the license of Dr. Clarence H. Hanson of Wright County, Sept. 24, 1924. Dr. Hanson was charged, it is reported, with intoxication and with two convictions in federal court for violation of the Harrison Narcotic Act.

Supreme Court Sustains Board of Health on Vaccination.—The Supreme Court of Iowa has sustained the decision of the lower court in the case of Carlyle M. Baehne, who, through his father, sued the local board of health and the school district to compel them to permit the boy to attend school without being vaccinated. The trial, which was held in January, 1925, concerned the question of issuing an injunction against the school board and the school district to set aside their order prohibiting unvaccinated pupils from attending school. Among other things, the judge said that "if there is evidence to warrant the school board in determining that there was an epidemic of smallpox, the discretion of the board cannot be interfered with by the court." The case was appealed and the supreme court held that the temporary exclusion of an unvaccinated child from school while an epidemic prevails does not present a case so compelling that the district court must issue a writ of injunction against the school and health authorities on petition of the parents.

MARYLAND

Expedition to Study Hookworm.—Plans have been completed for a research expedition to Central America under the leadership of William W. Cort, Ph.D., professor of helminthology, Johns Hopkins School of Hygiene and Public Health, for the purpose of improving control measures used to combat the hookworm. The expedition is part of a program of cooperation between the department of medical zoology at Johns Hopkins and the International Health Board, which has been carried on by Dr. Cort in various countries since 1921. The commission to Central America will be divided into two groups, one going to Panama, the other to Nicaragua, one group sailing from New Orleans about the first week in June, and consisting of Donald L. Augustine, S.D., assistant professor of helminthology, department of comparative pathology, Harvard University, Boston, and William A. Riley, Ph.D., professor of animal biology and head of the department, University of Minnesota, Minneapolis. The other group, which will leave New York for Nicaragua the latter part of May, will consist of Norman R. Stoll, Sc.D., associate in helminthology at Johns Hopkins; Harold Brown, assistant in helminthology at Johns Hopkins, and Maurice C. Hall, Ph.D., chief, zoological division, Bureau of Animal Industry, U. S. Department of Agriculture. Dr. Cort will divide his time between the two groups to coordinate the work.

MASSACHUSETTS

No Award of Boylston Prize.—The Boylston Prize Committee of the Harvard University Medical School, Boston, has voted not to award the Boylston Prize, as none of the essays submitted are worthy of the prize. By notifying the secretary, Dr. Henry A. Christian, Peter Bent Brigham Hospital, Boston, of the legend on the essay and the address, essayists may have their papers returned on request.

Breast Feeding Demonstration. — The Massachusetts Department of Health requests the cooperation of the medical profession in the establishment of breast feeding demonstrations in four cities and towns, which have been selected because the public health nursing is well organized in those communities. The object is to show that it is possible and desirable to increase the percentage of breast fed babies; the plan is to secure the consent of each physician to have their patients visited by a public health nurse who will see every mother two weeks after the birth. A "form" as a reminder of breast feeding will then be sent to the mother monthly, and will include a return form; every mother who fails to return the form or signifies thereon any difficulties in feeding will be visited by the nurse, and every mother will also be visited when the baby is 6 months of age.

MINNESOTA

State Medical Meeting.—The annual meeting of the Minnesota State Medical Association will be held at St. Paul, May 17-19. There will be a symposium on infantile paralysis by Drs. Carl C. Chatterton, St. Paul; Melvin S. Henderson, Rochester, and Frank W. Whitmore, St. Paul, and a symposium on cardiovascular renal disease by Drs. Hilding Berglund, Minneapolis; Leonard G. Rowntree, Rochester; Charles P. Emerson, dean, University of Indiana Medical College, Indianapolis, and Verne C. Hunt, Rochester. There will be clinics on diseases of the thorax by Drs. Willis S. Lemon and Stuart W. Harrington, Rochester, and on gastric diseases by Dr. Arnold Schwyzer, St. Paul. A novel feature will be the entertainment Wednesday evening given by members of the profession and their families, followed by dancing. The Monday evening meeting will be the usual medical "economics meeting" and the speakers will be Dr. Morris Fishbein, Chicago, editor of THE JOURNAL, "Fads and Quacks"; Dr. Charles P. Emerson, Indianapolis, "Degenerative Diseases and Periodic Health Examinations," and Mr. Herbert R. Galt, managing editor of the *Dispatch and Pioneer Press.* The banquet Tuesday evening will be for physicians only, and among the speakers will be the mayor of St. Paul, the governor and Dr. Charles H. Mayo.

NEBRASKA

Hospital News.—The late Miss Belle Dewey, Omaha, gave about $50,000 toward establishing a ward or a building in connection with the Nebraska Methodist Hospital for the free treatment of poor women suffering from cancer.——The late Martin and Mary Ellen Duey, Chester, bequeathed $9,500 to the permanent endowment fund of the Methodist Hospital.

Fifty Years in Practice.—Dr. John A. Waggener, Humboldt, celebrated the completion of his fiftieth year in the practice of medicine, recently, and was presented with a gold watch and chain by friends at a dinner, and the following evening was guest of honor at the annual dinner of the chamber of commerce. Dr. Waggener has three sons who are physicians.

Society News.—Dr. Herman L. Kretschmer, associate clinical professor of surgery, Rush Medical College, Chicago, addressed the Lancaster County Medical Society, Lincoln, March 20, on "Infections of the Urinary Tract."——Dr. Edward C. Davidson of the Henry Ford Hospital, Detroit, addressed the Omaha-Douglas County Medical Society recently on "The Management of Burns."

NEW HAMPSHIRE

Physicians for Rural Communities.—In view of the publicity given to the scarcity of physicians in rural communities, the secretary of the New Hampshire state board of health announced, March 16, that the following physicans had been admitted to practice under reciprocity arrangements with other states:

Dr. Earl J. Chase, a graduate of Tufts, will locate at Bristol.

Dr. May Jane Rochelle, a graduate of Women's Medical College of Pennsylvania, Philadelphia, will locate near Bethlehem.

Dr. Earl W. Gayer, a graduate of Indiana University Medical College, Indinapolis, has located at Dover.

Dr. Demetrius N. Matsis, a graduate of Tufts, has located at Nashua.

Dr. Barbara Beattie, a graduate of Cornell, has located in Littleton.

NEW YORK

Assembly Approves Medical Bill.—The assembly passed the Webb-Loomis bill, April 6, by a vote of 95 to 33. The senate has not yet acted on the bill; among other things, it provides for the annual registration of physicians and for the appointment of a grievance committee of ten members by the board of regents to pass on complaints against licensed members of the medical profession, and holds fraud or deceit in practice, the conviction of crime or misdemeanor, habitual drunkenness, use of narcotics and deceptive advertising as grounds for revoking a physician's license.

Eye Lectures to School Teachers.—Under the auspices of the National Committee for the Prevention of Blindness and the New York Department of Education, Dr. Emily A. Pratt has, for three months, been lecturing in each of the normal schools of the state on the most progressive methods of preserving the sight of children. The lectures, which will continue until May 1, will be supplemented by demonstrations in public schools, conferences with school superintendents, and talks to parent-teacher associations. New school teachers will thus be able to carry out the laws requiring periodic examinations of the eyesight of children; they will have an understanding of the principles of good illumination and of ocular hygiene in general.

New York City

Professor Watson Comes to Columbia.—According to the *British Medical Journal,* Dr. Benjamin Philip Watson, professor of midwifery and diseases of women, University of Edinburgh, Scotland, has accepted the corresponding chair at Columbia University, and the directorship of the Sloane Hospital for Women.

Dr. Kosseff Appointed Medical Director.—Dr. Abraham Kosseff has resigned as physician in chief at the Sing Sing Prison, Ossining, to become medical director of the Beth Moses Hospital, Brooklyn. Dr. Kosseff graduated from Long Island College Hospital Medical School in 1915, and for the last nine years has been engaged in penal medical work as assistant physician at Sing Sing, then chief physician at Clinton Prison Hospital, Dannemora, and then as physician in chief at Sing Sing. He assumed his new duties March 1.

Baltimore Medical Club.—The spring meeting and banquet of the Baltimore Medical Club of New York, which is composed of graduates of Baltimore medical colleges who are practicing in this vicinity, will be held, April 29, at the Hotel Commodore. Dr. Arthur M. Shipley, professor of surgery at the University of Maryland School of Medicine, who will be the guest of honor, will make the address, and other entertainment will be provided. Tickets may be obtained from Dr. Louis Winfield Kohn, 425 Park Avenue, New York; six dollars.

Hospital News.—A benefit performance will be given at the Century Theatre, April 19, for the Hospital for Ruptured and Crippled Children; the opera "Pinafore" will be presented.——The Hospital Information Bureau of the United Hospital Fund has prepared a directory of convalescent homes of New York City and vicinity, one copy of which will be sent free to all charitable agencies on request and extra copies at 25 cents each.—"The Song of Flame" at the Forty-Fourth Street Theater will be given as a benefit for the Lincoln Hospital and Home, April 27.

French Society Buys Site. — The French Benevolent Society announced, March 5, the purchase of a plot of ground on West Thirtieth Street as a site for a new twelve-story hospital building to replace the present French Hospital at 450 West Thirty-Fourth Street. The French Hospital, which was established in 1881, erected the present building, the capacity of which is 105 beds, in 1904. It cared for 2,670 patients in 1925, about 45 per cent of whom received free treatment. Its policy is said to be nonsectarian, and its help is extended to persons of every nationality. A campaign for $2,000,000 for the new building was opened, March 22.

Courses for Sanitarians.—Columbia University again will offer this summer new courses for the training of sanitarians in epidemiology, industrial hygiene and factory inspection, and will also continue to give the courses that have been offered during the last two years. The period of instruction has been shortened from six weeks to two or three weeks and at the same time the daily sessions lengthened to two or four hours each, in order to serve the convenience of health workers. Application for these and all other courses in public health and preventive medicine should be made to the director of the summer session before June 1. A complete copy of the announcement of courses for the summer session may be obtained from the secretary of the university. The summer session will be from July 6 to August 13.

Personal.—Sir Arthur Newsholme, formerly principal medical officer of the London Local Government Board, is reported to have arrived in this country, April 5, to lecture on public health at leading institutions during the spring and summer.——Dr. Arthur Schueller, Vienna, Austria, addressed the New York Neurological Society, April 6, at the New York Academy of Medicine.——Dr. Aaron S. Maclaire has been promoted to adjunct professor in neurosurgery at the New York Polyclinic Hospital and Post-Graduate Medical School. ——Dr. Alfred M. Hellman gave a dinner at the City Club, April 3, in honor of R. L. Kahn, Ph.D., of the Michigan State Health Department, Lansing, which was attended by about fifty physicians; Dr. Kahn had been invited to demonstrate the Kahn Precipitation Test before the New York State Medical Society, which was in session at the Waldorf-Astoria Hotel.——Dr. Patrick J. Murray, for eight years chief surgeon of the police department, has been retired, and Dr. Daniel J. Donovan has been appointed to that position. Dr. Donovan has been a police surgeon for twenty-two years. ——Dr. Julius Lewis Amster has been appointed attending surgeon to the Jewish Memorial Hospital.

NORTH CAROLINA

Tarboro Dairy.—The city of Tarboro has just ended its ninth year of owning and operating a municipal dairy. Tarboro, a city of about 5,000 persons, buys milk from farmers at 12 cents a quart, and after pasteurization, distributes it to consumers at 17 cents a quart. There has been a decrease in the amount of milk-borne disease since Tarboro has been operating the dairy.

Sanitary Survey of Impounding Basin.—The state board of health started a survery, April 1, of the proposed impounding basin of the Tallahassee Power Company, the so-called aluminum trust. Engineers of the board will cooperate with the health departments of Davidson and Rowan counties in collecting all data that might bear on the relation of the proposed dam to public health. Our correspondent writes that the dam will make the largest artificial lake in the world, having, when completed, a shore line of more than 325 miles.

Personal.—Dr. Daniel R. Bryson has been reelected president of the chamber of commerce of Bryson City.——Dr. John W. MacConnell, Davidson, has been detailed as commanding officer of General Hospital no. 95, U. S. Army Reserve, located at Columbia.——Davidson College has conferred the degree of D.Sc. on Dr. Andrew J. Crowell of Charlotte, a member of the state board of health, and president of the Tri-State Medical Association (the Carolinas and Virginia).——The chamber of commerce of Charlotte has awarded a prize of $100 to Dr. Harvey P. Barret of that city, as being one of three citizens whose services to the city were outstanding during 1925.

OHIO

License Stolen.—The Ohio State Medical Board reports that the license of Dr. Michael Mitchell was recently stolen from his automobile near Utica, N. Y. Dr. Mitchell graduated from Western Reserve University Medical School in June, 1924, and was licensed to practice medicine and surgery in Ohio, July 8, 1924.

Society News.—Dr. Eugene F. McCampbell, dean, and professor of preventive medicine, Ohio State University College of Medicine, Columbus, addressed the Richmond County Medical Society, recently, on "The Postponement of Death."——Judge E. L. Porterfield, federal prohibition administrator, twelfth district, addressed the Columbus Academy of Medicine, recently, on prohibition laws affecting physicians.——Dr. Thomas J. Kirwin, New York, addressed the Academy of Medicine of Toledo and Lucas County, March 5.——Dr. Edward J. McCormick, president of the Academy of Medicine of Toledo and Lucas County, addressed the Wood County Medical Society, February 18, on "Gallbladder Surgery."—Drs. Louis A. Levison, Rosco G. Leland and Charles R. King, all of Toledo, gave a symposium on periodic health examinations before the Hancock County Medical Society February 10, at Findlay.——Dr. Carl Spohr, Ohio State University College of Medicine, Columbus, addressed the Clark County Medical Society at Springfield recently on "Blood Chemistry as an Aid in Diagnosis."—Dr. Floyd C. Hendrickson addressed the Stark County Medical Society at Canton, March 16, on "Studies in Abdominal Incisions."

OREGON

State Medical Election.—At the fifty-second annual meeting of the Oregon State Medical Society, Portland, April 1-3, Dr. Willis B. Morse, Salem, was elected president; Dr. Hugh S. Mount, Oregon City, president-elect; Drs. Leo B. Bouvy, La Grande, John W. Sifton, Hood River, and Alfred B. Peacock, Marshfield, vice presidents; Dr. John Earle Else, treasurer, and Dr. Frederick D. Stricker, Portland, secretary.

Juvenile Hospital.—The new juvenile hospital, which is being erected on the property of the Louise Home, east of Portland, under the auspices of the Pacific Protective Society, will open, June 1, with accommodations for fifty patients. There will be thirty single rooms; the last legislature appropriated $17,500; Multnomah County is to contribute $25,000, and the state outside the county is expected to raise $35,000.

Bridge Pays for Nurses' Home.—The county commissioners of Multonomah County recently received a check for more than $170,000 as a refund for money advanced by the county for constructing the interstate bridge between Oregon and Washington. The county commissioners are using the money to build the nurses' home on Marquam hill in Portland. Each person who crosses this bridge to the north helps to pay for the nurses' home.

PENNSYLVANIA

Mellon Lecture.—Dr. George N. Stewart, professor of experimental medicine, Western Reserve University School of Medicine, Cleveland, will deliver the Mellon Lecture of the Biological Society at the Carnegie Institute, Pittsburgh, April 30, on "Studies on the Adrenal Glands."

Expansion of Medical School.—The building program of the University of Pennsylvania comprises five units, one of which is the medical school. There has been set aside on the campus for the medical school the triangle formed by Hamilton Walk, on which the laboratories are now and at the apex of which is the zoology laboratory; another side of the triangle runs along Cleveland Avenue, and the other is a line running along the Philadelphia General Hospital. It will be necessary, eventually, to remove from this plot Botanical Hall and the gardens. The plan is to continue building medical laboratories along Hamilton Walk. Construction on the laboratory of anatomy and biochemistry, for which the General Education Board and the Rockefeller Foundation have given $500,000 and the university an equal amount, will begin soon; from time to time, other medical buildings will be erected in the remaining space within the triangle.

Philadelphia

Dinner to Dr. Stewart.—A testimonial dinner in honor of Dr Francis E. Stewart was given, March 23, by the faculty of the Philadelphia College of Pharmacy and Science and other friends, in recognition of his long service in the advancement of ethics in connection with the manufacture and distribution of medicinal products. Professor Charles H. LaWall of the faculty was toastmaster.

Campaign for River Crest.—A city-wide organization of volunteer workers will start a campaign, April 20, for funds to erect a building for the care of eighty children predisposed to tuberculosis. River Crest Preventorium, which now cares for twenty-five children, will be expanded with the funds raised. There will be an extensive exhibit at the Sesqui-Centennial, this summer, showing the progress made in tuberculosis work; among other things, the work done at River Crest will be demonstrated; it is the only place of its kind in the state.

Research Fellowships Available.—The Henry Phipps Institute offers fellowships to qualified applicants who desire to work in experimental pathology and bacteriology with especial reference to tuberculosis. They are open to physicians and doctors of philosophy or science who have majored in some fundamental medical science. Fellowships are also offered in clinical research. Fellows will receive from $1,500 to $2,500 in accordance with their experience. Applications should be sent to Dr. Eugene L. Opie, director of laboratories, Henry Phipps Institute, Seventh and Lombard streets, Philadelphia, with a brief statement of the applicant's education and experience in methods of research, and letters of reference.

Society News.—Dr. John A. McGlinn addressed the Obstetrical Society of Philadelphia, April 1, at the College of Physicians, on "The Failure of Radium in Non-Neoplastic Bleeding: Histologic Study of Removed Uteri."——Dr. Henry Leffman lectured at the Philadelphia College of Pharmacy and Science, April 1, on "The Wonders of the Microscope"; this was one of the popular science series of lectures for the public.——Dr. William H. Park, New York, addressed the College of Physicians, April 7, on "The Drive to Eliminate Diphtheria: The Use of Scarlet Fever Vaccine and Antitoxin."——Dr. Thomas Darlington, formerly health commissioner of New York City, spoke at the fifth annual meeting of the Philadelphia Heart Association, April 14, on "Preventing Heart Trouble."

TENNESSEE

Personal.—Dr. Samuel S. Moody, formerly of Louisville, Ky., has been made health officer of Weakey County. ——Dr. Lemuel C. Cox has been appointed city health officer of Kingsport.——Dr. Cummings Harris, Memphis, for many years epidemiologist to the city board of health, has resigned, and Dr. Samuel L. Wadley has been appointed to that position.——Dr. William D. Haggard, Nashville, President of the American Medical Association, was guest of honor at a banquet of the Knox County Medical Society, Knoxville, March 30; Dr. Haggard gave an address on "Goiter Surgery."

Dr. Klotz Goes to Cornell.—Dr. Walter C. Klotz, medical director of the National Home for Disabled Volunteer Soldiers, Johnson City, has resigned, effective, May 10, to accept a position on the faculty of Cornell University Medical School, N. Y. Dr. David Townsend, associate medical director, will succeed Dr. Klotz, and Dr. Edward B. Frisbee, now chief of the tuberculosis unit of the Pacific branch of the National Soldiers' Home at Sautelle, Calif., will become associate medical director. The new medical director, Dr. Townsend, is a graduate of Harvard Medical School and has been on duty at the Johnson City sanatorium since October, 1920.

Health at Nashville.—Telegraphic reports to the U. S. Department of Commerce from sixty-nine cities with a total population of 29,000,000, for the week ending March 20, shows that the highest mortality rate (27.2) was for Nashville, and that the mortality for the group of cities as a whole was 18.4. The mortality rate for Nashville for the corresponding week last year was 11.5 and for the group of cities, 15. A similar report from the department of commerce for the week ending March 27 also indicates that the highest mortality rate (32.9) among this group of cities was in Nashville, while for the group as a whole it was 19.4; for the group for the corresponding week last year the mortality rate was 14.8, and for Nashville, 15.7.

TEXAS

State Board Appointments.—The governor has appointed Dr. Joseph R. Frobese, San Antonio, a member of the state board of health to succeed Dr. Murff F. Bledsoe, Port Arthur, resigned; Dr. Ralph Bailey, Gatesville, was appointed to the board to succeed the late Dr. Edward L. Rose, Palestine.

Department for Periodic Examinations.—Baylor University College of Medicine, Dallas, announces that it will establish a department of periodic health examinations in the outdoor dispensary of the university for the examinations of apparently well persons, and that only persons entitled to free service will be admitted for examination. Beginning with the 1926-1927 session, all students admitted to the medical school will be required to submit to a complete health examination when admitted and annually until graduation; they will be required also to be vaccinated against smallpox when admitted, and will be urged to submit to vaccination against typhoid fever. This work will be done under the direction of the department of bacteriology, hygiene and preventive medicine, and comprehensive records will be kept on forms similar to those recommended by the American Medical Association for health examinations. The department of bacteriology, hygiene and preventive medicine, in cooperation with the state health department, will offer a short, intensive course this summer, probably in June, in public health, for which no fees will be charged and no certificates granted. During the first two weeks in June, the college and hospital will again offer diagnostic clinics in medicine and surgery and the specialties, and all reputable physicians are eligible to attend. There will be no fees charged and no certificates granted.

WASHINGTON

Society News.—Dr. Einar Hoff, Seattle, addressed the Puget Sound Academy of Ophthalmology and Otolaryngology, recently, on "Hay-Fever Caused by Pollen."——Dr. Henry Odland addressed the Skagit County Medical Society, recently, on "Diseases of the Skin," and Dr. Raymond L. Jeffery, on "Fractures."

Personal.—Dr. Harry V. Wurdemann, Seattle, has been commissioned a colonel in the Medical Reserve Corps, U. S. Army.——Dr. Charles E. Taylor, Tacoma, has been appointed superintendent of the Western State Hospital at Fort Steilacoom, to succeed Dr. David Livingstone.——Dr. William R. Leverton has resigned from U. S. Veterans' Hospital no. 59, it is reported, to assume charge of the physiotherapy department of the Tacoma General Hospital. ——Dr. Mitchell Langworthy, Spokane, has been appointed surgeon in chief of the Shriners' Hospital for Crippled Children, to succeed Dr. Charles F. Eikenbary, who is now in charge of the Children's Orthopedic Hospital in Seattle.—— Dr. Paul I. Carter, Tacoma, has been appointed chief medical officer of U. S. Veterans' Hospital no. 59.

GENERAL

Travelers Must Be Vaccinated.—An order was issued, March 27, by the U. S. Public Health Service, it is reported, requiring that all persons leaving the Pacific Coast for Alaska and Hawaii must be vaccinated against smallpox.

Oriental Journal of Diseases of Infants.—The first number of the new quarterly *Oriental Journal of Diseases of Infants* has been received. This new periodical is published by the Branch Office of the Oriental Medical Association, care of the Children's Clinic, Kyoto Imperial University; and is under the able editorship of Dr. T. Suzuki, who is assisted by a committee of specialists. The important and well illustrated articles appear in English, German and Japanese.

The Rights of Children.—Herbert Hoover, president of the American Health Association, in a letter urging the annual observance of May Day as child health day, said that the elemental rights of each child are:

> To be born well.
> To have a healthy childhood, and
> To reach maturity in the happiness that comes in its fulness only to those whose physical heritage has been safeguarded.
> With bodily health almost surely goes the natural selection of health associations, moral and spiritual as well as physical.
> Also with such health, and just as naturally, goes an aptitude to receive the right instruction easily; to be kind; to regard the rights of others; that is, to make good citizens.

Society News.—The American Association of Hospital Social Workers will hold its annual meeting at Cleveland, May 25-June 2, with headquarters at the Hotel Winton; information can be obtained from the secretary, Miss Lena R. Waters, 30 East Ontario Street, Chicago.——Among the speakers at the annual Conference of State and Provincial Health Authorities of North America, Atlantic City, May 21-22, will be Dr. Walter M. Dickie, California State Board of Health, "The Plague Situation in California"; Dr. Benjamin F. Royer, National Committee for the Prevention of Blindness, "The Need of Epidemiologic Research in Trachoma," and Dr. Samuel J. Crumbine, American Child Health Association, "A Summary of a Milk Survey in Twelve States."

High Cost of Nursing.—Two plans will be submitted as solutions of the high cost of nursing at the biennial convention of the National Nursing Organizations, Atlantic City, May 17-22. "Grouping nursing," which has already been introduced in some hospitals, provides one nurse to care for several patients. Thus, the patients are enabled to have the services of graduate nurses continuously at a moderate fee, and if not critically ill, have adequate attention; if critically ill, additional care is given; for example, a nurse cares for two patients in adjoining rooms with an intracommunicating passage way, and another nurse is on duty at night; a nurse on duty in a given suite remains indefinitely. By this plan, a nurse may not earn as much daily as a nurse on special duty, but she has steady employment and more time for recreation. "Hourly nursing" is for the care of patients outside the hospital. The nurse is engaged by the hour rather than by the day, and goes from patient to patient as the physician does. This plan is in practice in a number of cities by individual nurses, and in connection with the work of public health nursing organizations. It is said to give the patient graduate nursing at expense within his means, and

unloading 300 or 400 yards from marshy land, which was the breeding ground for mosquitoes. The lights of the ship were brighter than those on shore, and he was satisfied that there was a greater danger on board of being bitten than there was in the town, where certain preventive precautions were taken. The man had to attend to two furnaces and was bound to have an unshaded electric light in order to do his work. The heat and light of the boiler house attracted mosquitoes, while he had a smaller chance of avoiding their attacks than he would have had if he had not been at work. The judge held that the mosquito bite was an accident within the meaning of the compensation act and gave his award in favor of the applicant for $1,770 with costs.

PARIS

(From Our Regular Correspondent)

March 15, 1926.

Intracardiac Injection of Epinephrine in Apparent Death of New-Born

Reanimation of the heart by intracardiac injection of epinephrine is being more and more frequently reported by reason of the simplicity of the technic. Especially in syncope resulting from chloroform, the method has proved good. It was logical, therefore, to employ it in other cases of arrested heart beat. Garipuy and Mériel of Toulouse report a favorable result from intracardiac injection of epinephrine in a case of asphyxia in the new-born. In their case of an infant born apparently dead, without heart beats or pulsation of the umbilical cord, aspiration of mucus and artificial respiration had proved ineffectual. After five minutes an intracardiac injection of 1 cc. of a 1:1,000 solution of epinephrine was administered in the fifth left intercostal space midway between the median and the mammillary lines. Almost immediately the infant heaved a sigh and the heart began to beat. Artificial respiration was continued, and at the end of fifteen minutes normal respiration was established. The authors pointed out that, in infants, intracardiac injection is exceedingly simple. The lungs of the infant that has not yet breathed lie flat against the vertebral column. There is therefore no danger of injuring them in making a puncture between the median and the mammillary lines. After the lapse of from ten to fifteen minutes, all hope of resuscitation will be gone Therefore, no time should be lost, and, when ordinary maneuvers have failed, intracardiac injection of epinephrine should be given without delay. It will have every chance of being effectual if it is done within five or six minutes after the arrest of the heart beat. After the injection, artificial respiration and rhythmic traction of the tongue should be kept up. The injection of epinephrine is not supposed to supplant, only to supplement, these methods.

Death of Professor Moussous

French medicine has lost one of its most eminent pediatricians in the person of Professor Moussous of the University of Bordeaux, who died recently. Professor Moussous was born in 1857. He began his medical studies in Bordeaux and completed his medical course in Paris, where he served as hospital intern from 1882 to 1886. He later became hospital physician, then agrégé professor, and, in 1898, head professor at the University of Bordeaux, where he devoted all his
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provides physicians with nurses for patients who do not require full-time nursing. "Hourly nursing" has been tried in connection with public health nursing organizations in Philadelphia, Milwaukee, Boston, Indianapolis, Omaha and other cities.

Foreign Physicians at Tuberculosis Meetings.—The biennial meeting of the International Union Against Tuberculosis will be held in Washington, D. C., September 30-October 2, and will be followed by the annual meeting of the National Tuberculosis Association which will also be held in Washington, October 4-7. The following foreign physicians have signified their intention of attending one or both of these meetings:

Prof. Vittorio Ascoli, Rome, Italy.
Dr. G. B. Roatta, Florence, Italy.
Prof. Gaetano Ronzoni, Milan, Italy.
Dr. Leon Bernard, Paris, France.
Dr. Jacques Parisot, Nancy, France.
Dr. Edouard Rist, Paris, France.
Col. S. Lyle Cummins, Cardiff, Wales.
Sir Robert W. Philip, Edinburgh, Scotland.
Prof. E. W. Archibald, Montreal, Canada.
Dr. Jabez H. Elliott, Toronto, Canada.
Dr. Charles D. Parfitt, Gravenhurst, Ontario, Canada.
Prof. Arthur Rousseau, Quebec, Canada.
Dr. David A. Stewart, Ninette, Manitoba, Canada.
Sir Henry Gauvain, London, England.
Dr. A. F. Miller, Kentville, Nova Scotia.
Prof. Francis Harbitz, Oslo, Norway.
Prof. Dr. Lydia Rabinowitsch-Kempner, Berlin, Germany.
Dr. Ernst Loewenstein, Vienna, Austria.
Dr. Fred. Neufeld, Berlin, Germany.
Dr. Ferdinand Sauerbruch, München, Germany.
Prof. Hugo Selter, Königsberg, Germany.
Dr. Jaquerod, Leysin, Switzerland.
Mlle. Helene Mugnier, Lyons, France.
Dr. A. Rollier, Leysin, Switzerland.
Dr. A. Stanley Griffith, London, England.
Dr. F. N. Kay Menzies, London, England.
Sir George Newman, London, England.
Prof. Friedrich Müller, Munich, Germany.

Reorganization of Indian Medical Service.—The U S. Department of the Interior announces a reorganization of the Indian Medical Service. Public health service methods will be installed in the handling of all medical, dental, health, sanitation and hospital activities of the bureau, under physicians detailed by the U. S. Public Health Service. Dr. Marshall C. Guthrie, U. S. Public Health Service, has been appointed chief medical director of the reorganized Indian Medical Service. Dr. Guthrie has had a long experience in public health work. He was stationed in New Orleans in 1905 during the epidemic of yellow fever, and has held various responsible positions in the public health service. The new plan is to establish four districts, each having a medical director in charge. The first district, with headquarters at Cloquet, Minn., will include Michigan, Wisconsin, Minnesota, Iowa, North and South Dakota, in which there is an Indian population of 64,419, ten Indian schools, ten agency hospitals, four sanatoriums, twenty-six agencies and many mission schools. The second district, with headquarters at Pendleton, Ore., includes Montana, Idaho, Washington, Oregon, Utah, Wyoming and northern California, and has an Indian population of 51,492, four Indian schools, eight agency hospitals, two sanatoriums, twenty-one agencies and many mission schools. The third district, with headquarters at Phoenix, Ariz., includes New Mexico, Nevada, Colorado, Arizona and southern California, and has 68,542 Indians, eleven schools, fourteen agency hospitals, six sanatoriums, thirty-six agencies and many mission schools. The fourth district, with headquarters at Muskogee, Okla., will include Kansas, Nebraska, Mississippi, North Carolina and Oklahoma. It has an Indian population of 64,419, seven Indian schools, three agency hospitals, three sanatoriums, sixteen agencies and many mission schools.

CANADA

Society News.—Among the guests who will participate in the program at the annual meeting of the Ontario Medical Association in London, Ontario, will be Dr. George E. de Schweinitz, Philadelphia, a past president of the American Medical Association, and Dr. Foster Kennedy, New York, who will contribute to the symposium on headache; Dr. Thomas McCrae, Philadelphia, will discuss nontuberculous pulmonary affections, and Dr. Leonard G. Rowntree, Mayo Clinic, Rochester, Minn., "Problems Connected with the Liver."——The Academy of Medicine of Toronto gave a dinner, February 2, to Dr. Donald C. Balfour, Rochester, Minn., who addressed the academy on "Peptic Ulcer."

Personal.—The New Brunswick government has appointed Dr. Walter W. White, St. John, on the Council of the College of Physicians and Surgeons of New Brunswick.——Dr. Henry A. McFarlen has been appointed president of the public school board of Winnipeg.——Dr. Oskar Klotz, professor of pathology and bacteriology of the University of Toronto Faculty of Medicine, delivered the Gordon Bell Memorial Lecture, Winnipeg, Manitoba, April 9; Dr. Klotz sails, May 1, for Lagos, West Africa, where, at the request of the Rockefeller Foundation, he will investigate yellow fever for six months.——Dr. Charles S. Morton, Halifax, N. S., has been elected director of the Ontario Equitable Life and Accident Insurance Company.——Dr. Archibald W. Hunter has resigned as pathologist to the Vancouver General Hospital, Vancouver.

FOREIGN

Spain to Hospitalize Lepers.—The Spanish government began a systematic campaign, according to the New York *Times*, March 19, to place all lepers in hospitals for treatment. The government intends to open well equipped leper hospitals with especially trained staffs in Andalusia, Santiago and the Canary Islands. There is a large hospital now in Valencia given over to the care of lepers. There are only about a thousand known lepers in the country; many others, it is feared, have not been discovered.

Society News.—The National Association for the Prevention of Tuberculosis will hold its twelfth annual conference, July 1-3, at Glasgow, Scotland, which will be open to all persons interested in tuberculosis on the payment of a fee of one guinea. The subjects for discussion are "The Actual Place and Function of the Tuberculosis Dispensary in the Tuberculosis Scheme" and "Provision for the Care of Nonpulmonary Forms of Tuberculosis." There will be a reception at the Municipal Building, July 1, by the lord provost of Glasgow, who will formally open the conference in the morning.

Personal.—The Fossati prize of the Istituto lombardi di scienze et lettere has been awarded to Prof. G. Aiello, on the staff of the Milan clinic for occupational diseases, for his work on "The Vegetative System in Fatigue."——Dr. Schenk, Poliklinik, Marburg, is in charge of the Sportarzt-Lehrgang, a course of graduate training in the medical aspect of sports, which is to be held there May 25 to June 5 this year. Our German exchanges add that attendance at the course entitles to the specialist title of Sportarzt—sport doctor.——Bohm, Kraus, Pirquet and others have been appointed a committee to study and introduce the BCG vaccine—if approved—into Austria in prevention of tuberculosis. Experiments on animals are under way.——Drs. Vialard and Darleguy of the French navy were awarded the navy prize for their "Epidemiologic and Clinical Study of a Meningococcus Epidemic."——Dr. Goepfert, 58, rue du Faubourg St-Jean, Nancy, is in charge of the fund for a medal to be presented to Prof. P. Haushalter on his retirement.——The director of the Assistance publique at Paris has announced the receipt from G. Blumenthal, New York, of a check for $60,000 for a new pavilion for ear and throat diseases at the Enfants-Malades Hospital.——Drs. Bernard, Duren and Trolli are the representatives of Belgium in the committee on tropical diseases sent by the League of Nations to western Africa. The members are to assemble at Dakar and hold the final conference at Sierra-Leone.

CORRECTION

Leora a Masculine Name.—In a collection of items pertaining to women physicians taken from the *Quarterly Bulletin* of the Medical Women's National Association, the name of Dr. Leora G. Bowers, Dayton, Ohio, president-elect of the Ohio State Medical Association, was included by mistake among the women physicians (The Journal, April 3, p. 1081).

Government Services

General Ireland Reappointed Surgeon General

The President has reappointed Major-Gen. Merritte W. Ireland as surgeon general of the U. S. Army and the nomination was confirmed by the Senate, April 8. General Ireland entered the military service in 1891; he served in the Spanish-American War, in the Philippine Insurrection and was chief surgeon of the American Expeditionary Forces in France in the World War until October, 1918, when he was appointed surgeon general of the army. He was awarded the Distinguished Service Medal for his services in the World War.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 20, 1926.

Osteopathy on the Defensive

Mr. E. T. Pheils, who describes himself as "vice president, British Osteopathic Association, chairman, Legislative Committee" has made an attempt to reply to the criticisms of osteopathy by Dr. Graham Little and Lord Dawson. He says that much of their matter against osteopaths has been accumulated from the "die-hards" of the American Medical Association. The recent debate in the house of commons is, he says, practically the same as that which has taken place in various United States legislatures previous to legislative protection. Now this statement is quite inaccurate, for the criticisms of osteopathy in this country, excepting the quotation of the American Medical Association's classification of colleges, have been quite independent. If they happen to coincide with anything said in America, it is simply a corroboration. "Well selected commissions," we are told, "invariably have reported that the osteopathic colleges compare quite favorably with the orthodox medical colleges." Then an Edinburgh graduate, also "D.O." of Kirksville, Mo., who therefore knows something about osteopathic colleges, is quoted as saying: "It is of interest to compare the average number of school hours in the five leading medical colleges in America (Cornell, Harvard, Jefferson, Northwestern University and Washington University) with the average number of school hours in the five leading osteopathic colleges (Kirksville, Chicago, Des Moines, Los Angeles and Philadelphia). Taking the subjects of anatomy, physiology, chemistry, pathology, bacteriology, diagnosis, practice of medicine, surgery, physiotherapy and the leading clinical subjects, the average number of school hours in the five leading medical colleges of America is 4,542, and the average number of school hours in the five leading osteopathic colleges is 4,953." As if "hours" were everything and the nature of the instruction and the instructors were not the main point. Then we are told that the majority of the members of the "British Osteopathic Association" are British-born men and women who have been compelled to go to the United States to qualify as osteopaths. "Because of the difficulty of the minister of health in recognizing or exercising any control over foreign diplomas, the British Osteopathic Association is founding a college of osteopathy in London. The British Osteopathic Association, including several registered medical men and Sir Herbert Barker, is competent to regulate the standards of this institution." Incidentally, it may be pointed out that Sir Herbert Barker is simply a "bonesetter" who never had anything to do with osteopathy before the present agitation for government recognition began, and therefore is not a competent "regulator," supposing that any "regulation" is to be taken seriously.

Report on Cancer of the Breast

A further report on cancer of the breast is published by the ministry of health and is described in a prefatory note by Sir George Newman, chief medical officer of the ministry, as "a useful and permanent addition to our knowledge of an obscure subject." A previous report prepared, like the present one, under the direction of Dr. Janet E. Lane Claypon, dealt with the results obtained after operation, and it was decided to follow this up by an investigation into the antecedent histories of 500 women who either were or had been victims of the disease. The inquiry was carried out in London and Glasgow. The new volume shows that only 15 per cent of the patients in hospitals had offered themselves for treatment at a stage at which real hope of prolonged relief or a possible cure by surgical treatment could be considered likely. "It has long been known," the report points out, "that unmarried women suffer from cancer of the breast at a higher rate than married ones." It is now proved that among married women those who are less fertile are at a disadvantage. The common belief that lactation at repeated pregnancies is a cause is shown to be baseless. Finally, this inquiry has confirmed and placed on a basis of statistical measurement the connection between the occurrence of cancer of the breast and a previous injury.

New Regulations for Insuring Clean Milk

A set of important regulations for securing cleanliness in the handling of milk is contained in the milk and dairies order, 1926, which has been drafted by the minister of health and is due to come into operation, July 1. Provision is made for the registration of all dairies and dairymen, and the duty of inspecting cattle in dairies is laid on every county and borough council. The order insists that cowsheds shall be properly lighted and ventilated, that they shall be kept "sweet and clean," and that they shall be whitewashed in May and October every year. It forbids the depositing of milk in any room used as a kitchen, scullery, living room or sleeping room, or in any place where it is likely to become infected, and requires that every person dealing with milk shall keep his clothing and person in a cleanly condition. The dairyman is required to report to the health officer any person in his household or the household of his employees who is suffering from an infectious disease, and health officers are given authority, when the supply or part of the supply of the dairy is suspected of being infected, to prohibit the sale of such milk for limited periods. Cattle in dairies must be kept clean, and the udders must be cleansed regularly before milking is begun. Cans and receptacles other than bottles, delivered to a dairyman, must be thorougly cleansed by him before he returns them. The penalties for offenses, as fixed by the milk and dairies (consolidation) act of 1915, are fines not exceeding $25 for the first offense, and not exceeding $250 for subsequent offenses; and not exceeding $10 a day in the case of a continuing offense.

Inspection of Imports

Regulations which it is proposed shall come into force, Jan. 1, 1927, lay on sanitary authorities the duty of inspecting imported milk, and forbid any person to import milk unless he is registered by the sanitary authority into whose district the milk is imported. If milk fails to reach a certain standard of cleanliness, the importer may be removed from the register; but appeal from the decision of the sanitary authority is provided. These regulations do not apply to condensed or dried milk.

Collective Investigation of the Status Lymphaticus

The exact part, if any, which status lymphaticus plays in the causation of sudden death is the subject of investigation by the Medical Research Council and the Pathological Society of Great Britain and Ireland. They are collecting information on the weights and measurements of the thymus gland on a large scale. The objects of the investigation are: (1) to establish, by means of a large series of weights and measurements, the standards of weight for age, and the proportion to body weight of the normal thymus at all ages; (2) to investigate closely the precise cause of death in persons dying suddenly from unexplained and trivial causes, when the only apparent abnormality is the presence of a large thymus.

In order to promote these objects, a committee of experts has been formed. Part of the scheme evolved by this committee is the appointment of a number of investigators in large centers to collect detailed records. But, in addition, the committee earnestly invites all other pathologists and physicians who perform necropsies to cooperate. The cases in which information is especially desired are: (*a*) cases of sudden death in apparently healthy persons of any age, including deaths from accident; (*b*) all cases of death in persons of 15 years or over who have an apparently glandular thymus. For this purpose, record cards have been prepared and will be sent on application for them.

Heavy Mortality from Motor Vehicles

During the period 1904-1923, the cancer mortality rate in England and Wales increased approximately 50 per cent, and the mortality arising from accidents caused by mechanically propelled vehicles by more than 1,000 per cent. During the same period, the mortality rate from all causes diminished by over 11 per cent. These comparisons were drawn by Major P. G. Edge in a paper read before the Royal Statistical Society on "The Growth of Mortality Due to Motor Vehicles in England and Wales, 1904-1923." "Cancer mortality," he said, "is fairly continuously pressed on the attention of the nation, but another cause of increasing mortality passes, not indeed without comment, even indignant comment, but without continuous public attention. Yet the deaths arising from street accidents mount up year by year. Each year the traffic problem presents increasing difficulties to be overcome by local administrative authorities; the effects of the increasing congestion on our streets and roads is reflected in the official returns of deaths caused by motor and other road vehicles." In 1904, motor traffic caused 171 deaths; in 1923, it caused 2,414. In spite of the fact that the general mortality in London was more than 30 per cent lower in 1923 than in 1904, deaths caused by motor vehicles showed an increase approaching 3,000 per cent. But American experience is much worse than ours. Indeed, the increased mortality has not only been much more rapid in the United States, but has attained a level more than double that of England and Wales. Higher mortality is also shown by American cities when compared with English ones. To insure the safety of foot passengers, Major Edge recommends: (1) a change in the law to permit (or insist on) local authorities to establish examinations of all drivers regarding physical fitness, technical skill and driving capability, before the issue of a license to drive; (2) compulsory insurance of the vehicle against mechanical defect (and perhaps against third-party risks).

Arsenic on Apples

The contamination of American apples with arsenic has been reported in previous letters. In another case a London fruiterer was fined $50 with $15 costs for selling 2 pounds (0.9 Kg.) of imported apples which contained 1/32 grain of arsenic per pound. The proceedings were the result of a complaint that people were ill after eating some of the apples. The local health officer declared that the dry wiping of apples for the removal of arsenic was of no use. "I have tried many methods," he said, "and I am of opinion that washing the apple is better than peeling it. But I do think that once the arsenic is sprayed on you cannot remove the whole of it in any way."

Indian Government's Opium Policy

The government of India is taking steps to give effect to the large sacrifices of revenue entailed by the new policy of eventual extinction of exports of opium, except for strictly medical purposes. For a long time, policy has been directed to preventing the use of Indian opium in the illicit trade in drugs. In 1915 the system of selling direct to importing governments was established and has been increasingly followed. Since 1923, no exports have been allowed save on certificates of the governments of the importing countries. Last year even certificated exports to Persia and Macao were prohibited. The signatories of the second Geneva protocol are to take measures to prevent within five years such smuggling as would seriously hinder the suppression of the use of opium in the Far East. The government of India interpreted the spirit of this obligation in the widest sense, as applying not only to actual smuggling from India but also to possible subsequent movements of opium legally exported. Accordingly, last year the government declared its intention to prohibit or restrict export even where foreign governments furnished import certificates, if there was evidence that opium in such foreign countries was finding its way into illicit trade. The further big step now taken goes beyond any requirement of the second Geneva protocol. The government has come to the conclusion that to avoid placing invidious restrictions on particular countries, and to carry out the policy of prevention to the utmost limit, exports to all countries shall be annually reduced and ultimately extinguished within a definite period. The policy requires the endorsement of the Indian legislature, but in the light of discussions which have been held from time to time in both chambers there is no reason to anticipate that it will be withheld. India has thus taken the lead in initiating the measure for which the proctocols provide, and by going far beyond her obligations is showing a determination to do all in her power to secure the improvement in the world opium situation which was looked for as a result of the Geneva conference.

Precautions to Be Observed in the Administration of Morphine and Heroin

A committee on morphine and heroin addiction, appointed by the ministry of health in September, 1924, was asked to advise as to the circumstances in which the supply of morphine and heroin to persons suffering from addiction to those drugs may be regarded as medically advisable, and as to the precautions which it is desirable that physicians prescribing morphine or heroin should adopt for the avoidance of abuse, and to suggest any administrative measures that seem expedient for securing observances of such precautions. It consisted mainly of experts: Sir Humphry Rolleston (chairman), Sir William Willcox, Dr. J. W. Bone, Dr. R. W. Branthwaite, Dr. G. M. Cullen, Prof. W. E. Dixon and Dr. John Fawcett. The report, which has just appeared, is of considerable importance. It states that morphine or heroin may be administered to addicts (*a*) when patients are under treatment by the gradual withdrawal method with a view to cure; (*b*) when it has been demonstrated, after a prolonged attempt at cure, that the use of the drug cannot be safely discontinued entirely, on account of the severity of the withdrawal symptoms produced; (*c*) when it has been similarly demonstrated that the patient, while capable of leading a useful and relatively normal life when a certain minimum dose is regularly administered, becomes incapable of this when the drug is entirely discontinued. In these cases the primary object of the treatment is the cure of the addiction, if practicable. The best hope lies in treatment in a suitable institution or nursing home. If the patient is unable to adopt this course or refuses, the physician must attempt cure by steady, judicious reduction of the dose. The patient should be seen frequently, be under sufficient control, and be in the care of a capable and reliable nurse. The physician should endeavor to gain his patient's confidence, and to induce him to adhere strictly to the course of treatment prescribed, especially as regards the amount of the drug of addiction which is taken. This last condition is particularly difficult to secure, as such patients are unreliable and frequently endeavor to obtain supplementary supplies of the drug. If, however, the physician finds that he cannot maintain the necessary control of the patient, he must consider whether he can properly continue indefinitely to bear the sole responsibility for the treatment. When the physician finds that he has lost control, or when the course of the case forces him to doubt whether administration of the drug can, in the best interests of the patient, be completely discontinued, he must consider whether he ought to remain in charge of the case and accept the responsibility of supplying or ordering indefinitely the drug in the minimum doses which seem necessary. The responsibility of making such a decision is obviously onerous, and both on this ground and also for his own protection, in view of the possible inquiries by the home office which such continuous administration may occasion, the physician will be well advised to obtain a second opinion. Severity of withdrawal symptoms on complete discontinuance after prolonged attempted cure, and inability of the patient to lead, without a minimum dose, a relatively normal life may appear to justify continuous administration of the drug indefinitely. The main object then must be to keep the supply of the drug within the limits of what is strictly necessary. The physician must see the patient sufficiently often for such observation as is necessary to justify the treatment. The opinion expressed by witnesses was to the effect that such patients should ordinarily be seen not less frequently than once a week. The amount of the drug supplied or ordered on one occasion should not be more than is sufficient to last until the next time the patient is to be seen. A larger supply would be justified only in exceptional cases; for example, on a sea voyage, when the patient was going away in circumstances in which he would not be able to obtain medical advice. In all other cases he should be advised to place himself under the care of another physician, who should be informed as to the nature of the case and the treatment pursued. Where the patient is suffering from organic disease for the treatment of which the drugs are necessary, the matter may be considered under two aspects: (*a*) cases in which the administration of morphine or heroin may be necessary for an indefinite period and in which the probability of a cure of the disease is remote (e. g., inoperable cancer); (*b*) cases in which administration of the drugs is called for in order to deal with conditions which, though due to organic disease, may be expected to be of more or less temporary duration (renal or biliary colic, etc.). In class *a*, the possibility of establishing a craving cannot be allowed to influence the administration of such doses of the drugs as are considered necessary for the adequate treatment of the organic disease; it will be in those rare cases only in which there is some prospect of partial or complete recovery from the disease that any attention can properly be given, during the course of treatment, to such measures as are likely to mitigate or avert the risk of subsequent persistence of any craving which may have been produced. In respect of class *b*, these measures become of paramount importance. They consist mainly in substitution, when possible, of other drugs for morphine and heroin, in close supervision by the physician of the amounts used and of the frequency with which they are administered, and in withdrawal of the drug as soon as possible.

Claim for a Mosquito Bite Under Compensation Act

An unusual compensation action was heard at the Manchester county court. A widow applied under the workmen's compensation act with regard to the death of her husband, who had been employed as a donkeyman on board a ship. He was bitten by a mosquito when the vessel was at Ghent and died thirteen days later, when the vessel arrived in the Manchester ship canal, from septicemia and pyemia following cellulitis. The judge said that the ship was unloading 300 or 400 yards from marshy land, which was the breeding ground for mosquitoes. The lights of the ship were brighter than those on shore, and he was satisfied that there was a greater danger on board of being bitten than there was in the town, where certain preventive precautions were taken. The man had to attend to two furnaces and was bound to have an unshaded electric light in order to do his work. The heat and light of the boiler house attracted mosquitoes, while he had a smaller chance of avoiding their attacks than he would have had if he had not been at work. The judge held that the mosquito bite was an accident within the meaning of the compensation act and gave his award in favor of the applicant for $1,770 with costs.

PARIS

(From Our Regular Correspondent)

March 15, 1926.

Intracardiac Injection of Epinephrine in Apparent Death of New-Born

Reanimation of the heart by intracardiac injection of epinephrine is being more and more frequently reported by reason of the simplicity of the technic. Especially in syncope resulting from chloroform, the method has proved good. It was logical, therefore, to employ it in other cases of arrested heart beat. Garipuy and Mériel of Toulouse report a favorable result from intracardiac injection of epinephrine in a case of asphyxia in the new-born. In their case of an infant born apparently dead, without heart beats or pulsation of the umbilical cord, aspiration of mucus and artificial respiration had proved ineffectual. After five minutes an intracardiac injection of 1 cc. of a 1:1,000 solution of epinephrine was administered in the fifth left intercostal space midway between the median and the mammillary lines. Almost immediately the infant heaved a sigh and the heart began to beat. Artificial respiration was continued, and at the end of fifteen minutes normal respiration was established. The authors pointed out that, in infants, intracardiac injection is exceedingly simple. The lungs of the infant that has not yet breathed lie flat against the vertebral column. There is therefore no danger of injuring them in making a puncture between the median and the mammillary lines. After the lapse of from ten to fifteen minutes, all hope of resuscitation will be gone Therefore, no time should be lost, and, when ordinary maneuvers have failed, intracardiac injection of epinephrine should be given without delay. It will have every chance of being effectual if it is done within five or six minutes after the arrest of the heart beat. After the injection, artificial respiration and rhythmic traction of the tongue should be kept up. The injection of epinephrine is not supposed to supplant, only to supplement, these methods.

Death of Professor Moussous

French medicine has lost one of its most eminent pediatricians in the person of Professor Moussous of the University of Bordeaux, who died recently. Professor Moussous was born in 1857. He began his medical studies in Bordeaux and completed his medical course in Paris, where he served as hospital intern from 1882 to 1886. He later became hospital physician, then agrégé professor, and, in 1898, head professor at the University of Bordeaux, where he devoted all his energy to pediatrics. He was eminent as a clinician and his publications are also of great value. Among his writings are a volume of clinical lectures on the diseases of children, a monograph on congenital affections of the heart, numerous articles in the handbook of children's diseases by Grancher and Comby, and several articles in the *Archives des maladies des enfants*, to which he was one of the oldest and most faithful contributors. In spite of his manifold duties, he always managed to find time for participation in movements looking toward the welfare and uplift of childhood.

Spirochetes in Relation to Pulmonary Gangrene

Bezançon and Etchegoin recently communicated to the Academy of Medicine the results of their microbiologic researches on pulmonary gangrene. They point out the rôle of spirochetes as well as that of nonsporulating anaerobes of the Veillon type, which Rist and Guillemot have shown to be of considerable importance. The existence of the spirochetes can be shown solely by the use of the following method: A specimen of sputum is shaken vigorously in a little physiologic sodium chloride solution and then placed in a water bath at a temperature of 29 C. for a quarter of an hour. The spirochetes are found on the surface of the liquid. Under these conditions, 285 tests were negative in various affections of the respiratory tract, but in seven cases out of eleven of pulmonary gangrene the authors found a peculiar spirochete which was quite different from the ordinary bacterial invaders of the mouth and which showed all the characteristics of the bronchial spirochete of Castellani. It was not *Spirochaeta vincenti,* and an attempt should not be made to attribute to fusospirillar symbiosis a rôle that has not been demonstrated. Various authors by their study of histobacteriologic preparations had shown that the central portion of the gangrenous foci contain Veillon anaerobes, *Bacillus fusiformis,* and certain rare spirochetes much altered, whereas the edges of the lesion revealed only an abundance of well preserved spirochetes. If one considers in this connection the extreme fragility of the spirochete, which is broken up in less than forty-five minutes in the sputum, one is led to believe that it plays a primary part in pulmonary gangrene when it is found to be present, and possibly also in the cases in which it has not been discovered in the sputum. It is the lung prepared by a spirochetal infection that is most likely to be attacked by anaerobes, the causative agents in putrid fermentation.

ITALY

(From Our Regular Correspondent)

Feb. 15, 1926.

The Italian Sanitary Mission in Yemen, Arabia

The governor of the Italian colony of Eritrea on the Red Sea, acting in accord with the central government at Rome, has complied with the request of the sultan of Yemen, in southwestern Arabia, to send him physicians, nurses and sanitary supplies. A mission has been dispatched to Sana, the capital of Yemen, where a hospital has been opened and is now in full operation. In spite of meager equipment and unfavorable surroundings, Drs. Mastrantonio and Pavone have performed numerous surgical operations. The purpose is to aid in the propagation of public health ideas and in the prophylaxis of infectious diseases.

Death of Prof. Camillo Golgi

Senator Camillo Golgi, the professor of general pathology, to whom we are indebted for the histology of the nervous system, has died at the age of 86. He discovered in 1874 his method of chrome-silver impregnation. Applying the method to the study of the brain and the spinal cord, Golgi was able to follow the ramifications of the processes of the nerve cells, to note the course of the individual fibers, to study the processes of the cells of the neuroglia, and to differentiate the two types of nerve cells (I and II) which are named after him Golgi's cells. He was one of the first to formulate the neuron theory. Also his studies on malaria led to many fundamental discoveries, such as the asexual cycle of the malarial parasite; the connection between sporulation of the parasite and the febrile attack, and the description, in addition to the evolutional forms, of the degenerative forms of the parasites. Golgi received, while still a young man, calls to other, larger institutions; but, having become well known for his researches at the University of Pavia, he never wanted to leave. He was a member of the Accademia dei lincei and of many other important Italian and foreign scientific academies. He had recently been the recipient of a Nobel prize.

The Academy of Italy

By a recent decree, the Accademia d'Italia has been created. The headquarters of the new society will be in Rome in a palace to be donated by the government. The object of the society is to promote and coordinate Italian intellectual movements in science, literature and art, preserving their pure national character and facilitating their expansion in foreign lands. The membership will be limited to sixty appointed by royal decree and subject to the approval of the society. The king will appoint for the present only thirty charter members. The society will have no corresponding members, either Italian or foreign.

An Italian Precursor of Pasteur

At a conference held, February 2, at the Scuola di sanita militare, Senator Alessandro Lustig, professor of general pathology, Florence, depicted a great Italian scientist of the last century who has of late years been almost forgotten. The great scholar was Agostino Bassi, who, born near Lodi in 1773, was graduated in medicine by the University of Pavia. He is entitled to be called a precursor of Louis Pasteur. Studying a serious disease of the silkworm (*calcino,* so called), Bassi established the contagious nature of the malady and demonstrated that it is transmitted from diseased to healthy worms through inoculation with organic material; through contact with animals that have died from the disease, or through contaminated air. For all his assertions, Bassi furnished proof by means of entirely new and ingenious experiments. Also domestic animals, human hands, foods and insects (flies and fleas) were designated by Bassi as possible vehicles of the disease. Bassi declared that *calcino* was "caused and transmitted by a being endowed with organization and life." He established that the morbigenous agent grows only on silkworms. Bassi was the first to establish that prophylaxis of infectious diseases may be accomplished by means of disinfection, and as disinfectants he recommended the same agents that are used today (dry and moist heat, mineral acids, lime, soda and potassium). His work on *calcino,* the fruit of thirty years of study, was published, 1835-1839. Other important researches of Bassi were on the etiology and prophylaxis of pellagra, published in 1846. He attributed the disease from the start to the use of spoiled or fermented maize, and advanced the opinion that fermentation of the grain is due to organisms of a vegetable nature, as was later demonstrated by Pasteur. He recommended, therefore, inoculation with dried extracts of maize, in the prophylaxis of pellagra. In 1852, Bassi asserted that "all contagious diseases are produced by parasitic microorganisms, vegetable or animal." It is curious that it was in connection with the study of another infectious disease of the silkworm (*pebrina*) that Pasteur began, in 1863, his discoveries in relation to infections. In honor of Agostino Bassi, a national committee has recently been appointed which will republish the works of the scientist of Lodi.

Organization of the Aviation Sanitary Service

By a recent government decree, the details of the aviation sanitary service have been established. In the department of aeronautics (recently constituted), there will be a central bureau of sanitation, which will have under its control a central committee for the study of aviation with respect to sanitation, the medicolegal institutes, the regional sanitary bureaus, the infirmaries and the first-aid stations in the aeronautic camps, schools and societies.

BELGIUM

(From Our Regular Correspondent)

March 15, 1926.

Sterilization of the Unfit

The Société d'anthropologie of Brussels has taken up the question of sterilization of abnormal subjects, from the anthropologic point of view. There is at present evidence of an augmentation in the number and of a retrogradation in the character of the sexual misdemeanors committed. Vervaeck discussed all phases of the question and referred to the action that had been taken in foreign countries. In Scandinavia, laws have been passed prohibiting marriage in the presence of certain mental affections, such as constitutional epilepsy, leprosy and infectious venereal diseases. In such cases the physician is required to notify the authorities. However, serious difficulties lie in the way of prophylactic sterilization. The diagnosis of hereditary diseases and the prognosis of hereditary defects is difficult. Again, from the moral aspect, such a measure is repugnant to our feelings and sterilization would not be acceptable at all except with the consent of the subject or of his family. The author concludes that the crusade against degeneracy must never be cruel or unjust, or impose mutilations that may entail disagreeable consequences from the physical or mental standpoint; for the experiences collected thus far are by no means conclusive. To treat abnormal subjects, it is much better to combat degeneracy at its origin: alcoholism, syphilis, etc. Furthermore, the sterilization of abnormal subjects does not avert their social danger, and it will always be difficult to adopt a measure which presents so many obstacles of all kinds and which is so directly in conflict with our usual public policy and customs.

Cancer in Relation to Industrial Accidents

Before the Société belge de médecine et de chirurgie des accidents du travail, Dr. Brohée discussed recently the problem of the traumatic etiology of cancer, and, more particularly, of cancer of the stomach. Trauma does not provoke cancer directly. It is not the sole cause, but it is one of the causes. From the medicolegal point of view, certain cancers may be recognized as the result of industrial accidents. Legal responsibility must take account of these criteria: Traumatism may be considered the principal cause if the cancer develops not less than one month nor more than three years after the accident in question, or in case of an aggravation resulting in death in a shorter time than would otherwise have occurred. Traumatism may be considered as a partial cause if the cancer is slightly aggravated. Traumatism must be considered as of no influence if it merely leads to the discovery of a preexisting cancer without affecting its evolution. While a gastric cancer cannot be caused directly by traumatism, an ulcer that develops as the result of a traumatic lesion of the gastric mucosa may be considered as a traumatic ulcer. A cancer developing on the site of an injury might, through an inaccurate use of language, be termed a traumatic cancer of the stomach. In such a case it will always be difficult to furnish definite proof of what is the true condition, for the past history is not sufficient.

Intravenous Injections of Quinine

Addressing successively the Cercle médical of Léopoldville and the Société belge de médecine tropicale, Drs. Seidelin and Fidao entered a plea in favor of intravenous injections of quinine. Seidelin advocates concentrated solutions, and it is his experience that accidents are insignificant. He does not confine the method to emergency cases, for he holds that intravenous injections sometimes produce a more energetic action than buccal administration. The latter method will, however, remain the method of choice in daily practice. Fidao has found that doses of 0.5 Gm., if given intravenously, will have as much effect as doses of from 1.5 to 2 Gm. by mouth, for he does not believe in the more rapid elimination of the drug when given intravenously. He has examined urines voided every two hours after the intravenous injection of 0 5 Gm. of quinine in sixteen patients. When the patient has urinated a short time before the injection, one finds quinine in the urine during the first quarter of an hour. The maximal elimination takes place from the second to the fourth hour, but even fourteen hours later the reaction is still appreciable. Fidao affirms that, in grave cases, intravenous injection is the preferable method. In cases of moderate severity its efficacy is equal to that of buccal administration, but its use is restrained by the fear of local accidents. In chronic malaria, when, in spite of continued administration of quinine by mouth, the patient retains parasites and shows a bad general condition, four or five intravenous injections (say, 2 Gm. of quinine in four hours) will free the patient from parasites and will improve his general condition. In chronic cases, however, the objection to local reactions has more weight because they are more frequent than in acute cases, and then, again, the patients concerned are working regularly every day and are thus more discommoded by them.

Acidosis in Relation to Polycythemia

To the clinical society of the hospitals of Brussels, Dr. Schuermans presented recently a communication which appears to throw new light on the etiology of polycythemia, and especially of true erythremia or Vaquez' disease and of emphysematous and cardiac polycythemia.

The daily injection of heavy doses of sodium bicarbonate caused an almost 50 per cent decrease in the number of red corpuscles. The leukocyte count is not affected. The percentage of hemoglobin remains very high. However, the subjective symptoms improve. With the cessation of the ingestion of bicarbonate, the erythremia returns to its former status. The author endeavors to explain the therapeutic result by considering polycythemia as dependent on acidosis of the blood plasma. Sodium bicarbonate, by neutralizing the plasma, may cause the disappearance of the polycythemia.

New Findings in Epilepsy

Addressing the Société belge de biologie, Dr. Dautrebande presented the results of his researches on the acid-base equilibrium of the blood in epilepsy. He believes that there exists in epilepsy an abnormal product of metabolism of alkaline reaction which combines with difficulty in vivo with carbon dioxide.

Death of Professor Morelle

The death of Dr. Morelle, professor of dermatology at the University of Louvain, has been announced. Professor Morelle was called in 1919 to the medical faculty of the university to assume the chair of dermatology. Among his best known works are his treatises on face grafts, treatment of lupus and skin cancers.

Law Pertaining to Sugar and Saccharin

Belgium has a law for the protection of the sugar industry. The law forbids the importation, the manufacture, the transportation, the keeping on hand and the sale of saccharin and like products. Owing to that fact, no dentifrices that contain saccharin even in minute quantities may be imported into Belgium. Technicians find in saccharin a valuable antiseptic in mouth hygiene. Several attempts have been made to induce the government so to change the interpretation of the law that tooth pastes, creams and lotions may be regarded as medical products, which would thus no longer come under the application of the law. Heretofore, dentifrices have been classed under the same head as perfumery.

Roentgenography of the Biliary Tract

The presentation of a number of cases of roentgenography of the gallbladder before the Société belge de radiologie has reawakened interest in questions of interpretation and of technic. In general, the authors would not accept the finding, which appeared to them too radical, that every gallbladder that does not become visible in the roentgenogram is in a pathologic condition. Tetrabromphenolphthalein appears more dangerous than tetraiodophenolphthalein, and intravenous injection (of the sodium salts) should usually be replaced by the ingestion of keratinized capsules.

GENEVA

(From Our Regular Correspondent)

March 25, 1926.

Two Cases of Insuloma

To date there have been reported thirteen cases of insuloma, or langerhansian adenoma. Dr. H. Schneider, working in the pathologic institute of the University of Lausanne, has recently published a thesis on two more cases, making fifteen in all. One of these was observed at Lausanne; the other is from the institute of pathology of the University of Geneva. These adenomas develop indifferently in the head, body or tail of the pancreas. Their diameter varies from a few millimeters to a few centimeters. One of the adenomas studied by Dr. Schneider is the largest recorded, and measured 5.5 by 4 cm. Of the fifteen recorded cases, all but two were found at necropsy of elderly subjects whose death was due, with one exception, to arteriosclerosis. One of Dr. Schneider's cases is the oldest so far reported, the subject being a man, aged 84. In this case a congenital origin of the tumor was suspected. Besides the pancreatic growth, there were adenomatous nuclei in the prostate and numerous cysts in the kidneys. Although the neoplastic nature of the latter is still a question, it is admitted that renal and hepatic cysts often encountered in the same subject develop from an embryonal disturbance. This subject, furthermore, presented a dermatomyoma of the right big toe.

To explain the genesis of pancreatic growths is difficult. The frequency of insular lesions in diabetes mellitus is nevertheless unquestioned. Schneider points out that it may be well to study the relations between insulomas and disturbances of sugar metabolism. In the fifteen cases so far recorded, two of the patients were diabetic. Schneider does not believe that these growths cause diabetes. It is to be hoped that in future instances of insuloma, detailed examination of the entire pancreas—especially by Heiberg's methods—will be undertaken to throw more light on this problem.

Two Cases of Cystic Disease of the Intestine

Dr. Albert Reverdin of Geneva has recently reported two cases of cystic disease of the intestine, a rare affection whose exact etiology is still unknown. The first case was diagnosed at laparotomy, and the specimens were examined immediately after removal. Microscopically, the cysts were of spherical lamellae bounded by fibro-adipose tissue and occasionally lined with a layer of flattened cells. The endothelium of the submucous lymphatic vessels, in which the gas was contained, showed inflammatory reaction. No bacteria were detected in the sections. By roentgen-ray examination, Reverdin diagnosed preoperatively the second case as cystic intestinal pneumatosis. The film revealed a clear area streaked by dark arches which did not resemble valves. The image was located on the right between the diaphragm and the liver, and on the left between the diaphragm and the gastric dome. Reverdin points out that some gastro-intestinal affection has coexisted in 75 per cent of the reported cases. The contents of the cysts are composed of gas containing 10 per cent of carbon dioxide and 90 per cent of nitrogen. Bacterial origin has as yet not been shown to exist.

Operative Mortality in Simple Hyperthyroidism

The operative mortality in simple goiter is now very low. De Quervain of Berne, in his recent statistics of 2,220 cases of simple goiter, found a mortality of 0.86 per cent. Of 1,682 patients under 40 years, de Quervain's mortality was 0.06 per cent, while of 316 operations on patients in the fifth decade there were three deaths, or about 1 per cent. In the sixth decade 145 patients gave a mortality (six cases) of 4.1 per cent, while in the seventh decade there were forty-six operations with seven deaths (nearly 20 per cent). In the eighth and ninth decades there were eight cases with two deaths, or 25 per cent. These figures show that the danger appears at the time of life when the cardiovascular and renal systems commence to show the changes of advancing life. It is then that operative shock and pulmonary postoperative complications—bronchitis and pneumonia—are fatal.

Subcutaneous Tumors from Injection of Drugs

Dr. J. L. Nicod of Lausanne has recorded two new cases of subcutaneous tumors, the result of subcutaneous injection of drugs. In one of these cases the nodules, which were multiple and of various sizes, were the result of injections of camphorated oil and quinine given eleven years previously. The second patient was a woman, aged 24, who eight months previously had been given injections of quinine in the buttocks. In both cases the process was a granuloma developing in the areas of the injections of quinine and camphorated oil given many years previously. The watery solution or oil injected at once produced a cyst which did not become absorbed and, acting like a foreign body, set up an inflammatory reaction around it. In view of the extensive use of camphorated oil injections, these morbid processes are rare. The cases so far reported have occurred in weak patients with some serious infective process and whose power of subcutaneous absorption has been injured, perhaps by lesions of the terminal vascular branches. In such patients, Nicod advises the venous route.

New Gastrostomy Technic

In the operation of gastrostomy, Dr. Cornioley of Geneva makes a rectangular cutaneous epigastric flap with the pedicle above. The long axis of the flap runs from right superior to left inferior and measures from 6 to 8 cm., the breadth at the pedicle being 4 cm. and at the free border, 5 cm. The epidermis is next removed with a sharp curet over an area of 15 cm., completely exposing the dermis. The flap is then rolled up into a tube, and the edges are sutured together. The abdominal cavity is opened through the left rectus muscle. A cone of the gastric wall is drawn out through the opening in the muscle and sutured to the parietal peritoneum. The apex of the gastric cone is then cut off to make a circular opening in the stomach. With four V-shaped silk sutures, the gastric cone is drawn into the lower portion of the cutaneous tube, sutured in place, and approximation is completed by a circular suture uniting the cutaneous tube and stomach. A few catgut sutures close the opening in the rectus muscle, and the entire field of operation is then covered over by autoplasty with two cutaneous flaps. The sound is left in situ for a fortnight, after which it is introduced only for feeding.

BERLIN

(From Our Regular Correspondent)

March 6, 1926.

The Hygienic Aspects of Sleep

In an article in the *Deutsche medizinische Wochenschrift*, Prof. I. H. Schultz, psychotherapeutist of Berlin, discusses psychotherapy in insomnia. The physician must get the hypochondriac patient to realize that he does not spend "absolutely sleepless nights." Then, again, the patient must be taught that it is possible to learn to sleep. He must be impressed with the idea that the length of hours is not so important as the quality of the sleep; furthermore, he should know that loss of sleep can be compensated for by increased food intake and other measures. The patient must be urged to spend the evening in such a manner that he will be in a calm state of mind on retiring. One should accustom oneself to noises so as to be able to fall asleep, and to continue to sleep, in spite of them. According to Schultz, hypnotism should be resorted to only in very severe cases of insomnia, but then the results are good.

Dress as an Expression of Sexual Feeling

In a lecture with lantern slides, recently delivered by Dr. Magnus-Hirschfeld, the well known investigator on sexual subjects, in the Institut für Sexualwissenschaften, he took as his theme the old controversial question, "Why Do We Wear Clothes?" He discussed the various theories that have been presented—"for protection," "to cover our nakedness," "as adornments to our person," "for purposes of allurement"—and then gave his conviction that the habit of dress sprang from an instinctive desire to express sexual aptitudes. Possibly we wear clothes at all because we need protection, while the kind of clothes we wear is decided by our instinctive impulses; especially, the desire for erotic allurement. In other words, *"Wir ziehen uns an, um andere anzuziehen,"* which may be freely rendered: We dress according to fashion, to fashion others' desires. Hirschfeld remarked that persons who had an antipathy for fancy costumes were suffering from blocked expression of instinctive impulses. Others, however, find satisfaction in hiding their ages at masquerade balls, or their stations at dances in the servants' quarters, or in forgetting for the moment that they belong to a certain historical period by donning the costume of a previous age. Those who are not satisfied unless they can wear the clothes of the opposite sex, often, while not homosexual, find in this disguise satisfaction of their instinctive impulses. Hirschfeld thinks that the present coiffure of women is controlled by such factors or impulses. The masculinization process, which is going on in women, had as its first expression bobbed hair. A photograph dating back twenty years and representing a female figure with bobbed hair, standing collar and black divided skirt at that time looked ridiculous, but now we inspect it quite unmoved. However, we must not forget that styles have only a relative significance. In this connection, the speaker conjured up the picture of a German bridal couple around 1500. The young man has long, flowing hair, an overgarment cut low in the neck, and coquettish puffed sleeves, while the bride has short locks and wears a simple, tight-fitting dress. So marked are the changing conceptions as to what constitutes "masculine" and "feminine" in dress. Nevertheless, Dr. Hirschfeld prophesied that the "boyish bob" was likely to persist for some time. It is in keeping with the demands of the time, which have likewise caused the Chinese to sacrifice their queues, and men, for the most part, their full beards.

Extreme types of transvestites endeavor to transform their bodies to make them resemble more the opposite sex: "Hapless creatures whose souls have been condemned by fate to spend their earthly days in cells their tastes berate." The presentation before the assemblage of a genuine transvestite was the climax of the lecture; a man who insists on comporting himself like a woman, calls himself "Dora," and even in his gait and his speech betrays almost superfeminine coquetry. The psyche of these mysterious persons is exceedingly puzzling. For instance, the mere recollection of the period in "Dora's" life in which the male characters were dominant brings a blush to "her" face.

Marriages

Erasmus H. Evans Taylor, Morganton, N. C., to Miss Julia Barber of New York, March 23.

Abraham Antweil, Fort Worth, Texas, to Miss Frieda Belle Maier of Lockhart, February 7.

William B. Clendenning to Miss Anna Marie Schellhase, both of Waynesburg, Pa., March 31.

Deaths

Edward Aloysius Weiss ⊕ Pittsburgh; University of Pittsburgh School of Medicine, 1900; assistant professor of gynecology at his alma mater; member of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons and the Associated Anesthetists of the United States and Canada; on the staffs of the Roselia Maternity, Magee, Presbyterian and Mercy hospitals and chief of staff of St. Paul's Roman Catholic Orphan Asylum; served during the World War, aged 48; died, March 24, at Honolulu, Hawaii, following an infection of the hand, contracted while performing an operation.

John Michael Stadter, Wilmington, Del.; Atlantic Medical College, Baltimore, 1908; member of the Medical Society of Delaware; on the staffs of the Physicians' and Surgeons' and the Delaware hospitals, and formerly on the staff of the Wycoff Heights Hospital, Brooklyn, aged 42; died recently, of influenza

Arthur Sherwood Corwin ⊕ Rye, N. Y.; Medical Department of the University of the City of New York, 1898; past president of the Westmoreland County Medical Society; on the staffs of the Grasslands Hospital, Valhalla, and the United Hospital, Portchester; aged 54; died, March 24, of pneumonia.

George Lewis Collins, Providence, R. I.; Medical School of Harvard University, Boston, 1879; member of the Rhode Island Medical Society; formerly on the staffs of the Rhode Island, Providence Lying-In and St. Joseph's hospitals; aged 74; died, April 1, of angina pectoris.

Charles Franklin Loeding, Portland, Ore.; University of Oregon Medical School, Portland, 1912; member of the Oregon State Medical Society; aged 43; died, March 21, at the Portland Sanitarium, of injuries received when a tractor toppled over on him.

Joseph C. Lincoln, Bowling Green, Ohio; Rush Medical College, Chicago, 1871; Civil War veteran; formerly probate judge; at one time a druggist, member of the board of education, and councilman; aged 81; died, March 24, of injuries received in a fall.

Theodore Louis Pulvermacher, Brooklyn; New York Homeopathic Medical College and Flower Hospital, New York, 1915; served during the World War; aged 46; died, March 22, of pleurisy following an infection acquired while operating.

Henry Martyn Hall, Jr., Pittsburgh; Medical Department of the University of Illinois, Chicago, 1897; member of the Medical Society of the State of Pennsylvania; aged 44; died, January 11, of acute dilatation of the heart and chronic myocarditis.

Albert E. Griffin, Columbus, Ohio; Columbus Medical College, 1884; formerly president of the city council, and member of the board of education; for five years on the staff of the Franklin County Infirmary; aged 72; died, March 28, of heart disease.

John C. White, Seatonville, Ill.; M.R.C.S. and L.R.C.P., England, 1867, L.R.C.P., Edinburgh, and L.S.A., London, 1868; for many years postmaster of Seatonville; aged 79; died, March 22, at Decatur, of pneumonia following erysipelas.

Joseph Allen Mansfield Clark ⊕ Savona, Ohio; Michigan College of Medicine and Surgery, Detroit, 1898; past president of the Darke County Medical Society; aged 51; died, March 26, of tuberculosis of the spine.

John Henry Fochtman ⊕ Cozad, Neb.; College of Physicians and Surgeons, Baltimore, 1883; past president and secretary of the Dawson County Medical Society; aged 63; died, March 13, of heart disease.

Harry Fred Bushey, Camden, N. J.; Baltimore University School of Medicine, 1904; formerly county coroner and member of the board of health; aged 47; died, March 26, following a long illness.

Herschel Eugene Currey, Baker, Ore.; Kentucky School of Medicine, Louisville, 1893; California Eclectic Medical College, Los Angeles, 1897; aged 65; was accidentally shot and killed, March 21.

Herbert Spencer Gillette ⊕ Savona, N. Y.; Long Island College Hospital, Brooklyn, 1887; past president of the Steuben County Medical Society; aged 63; died, March 23, of heart disease.

Francis Irwin Burnell, South Norwalk, Conn.; Long Island College Hospital, Brooklyn, 1894; member of the Connecticut State Medical Society; formerly mayor of Norwalk; aged 64; died, March 18.

William Calvin Jarnagin, Atlanta, Ga.; University of Virginia Department of Medicine, Charlottesville, 1872; for five years president of the city board of health; aged 75; died, March 30.

Miloslav Francisci, Cleveland (licensed, Ohio, 1896); member of the Ohio State Medical Association; aged 71; died, January 19, of chronic endocarditis, diabetes mellitus and nephritis.

John H. Rohr, North Milwaukee, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1897; member of the State Medical Society of Wisconsin; aged 56; died, March 9.

Ralph Steans ⊕ Lewisburg, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1891; aged 62; died, March 20, at the Williamsport (Pa.) Hospital, of heart disease.

Frank Robert Humphreys, Bradford, Pa.; College of Physicians and Surgeons, Baltimore, 1895; served during the World War; aged 54; died, February 27, following a long illness.

John Joseph Burke ⊕ Schenectady, N. Y.; University of Vermont College of Medicine, Burlington, 1907; served during the World War; aged 49; died, March 11, of pernicious anemia.

Minor Morris ⊕ Alliance, Neb.; Medical College of Ohio, Cincinnati, 1890; served during the World War; aged 62; died, March 22, at St. Joseph's Hospital, of arteriosclerosis.

John McWilliam, London, Ont., Canada; Trinity Medical College, Toronto, 1880; L.R.C.S. and L.R.C.P., Edinburgh, Scotland, 1880; aged 72; died, February 10, of heart disease.

James Harwood Closson, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1886; formerly on the staff of St. Luke's Hospital; aged 63; died, March 26.

Ebenezer Lee Palmer, Noble, Ill.; Eclectic Medical Institute, Cincinnati, 1877; also a druggist; aged 71; died, March 23, at the Olney (Ill.) Sanitarium, of diabetes.

C. E. Vandiver, Ogallala, Neb.; Ensworth Medical College, St. Joseph, Mo., 1887; member of the Nebraska State Medical Association; aged 64; died, March 26, of heart disease.

James Starrett Dougal, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1893; aged 55; died, March 21, at the Jewish Hospital, of pneumonia.

Frank Herbert Tilton, Boston; University of Vermont College of Medicine, Burlington, 1879; member of the Massachusetts Medical Society; aged 69; died, March 24.

Cornelius M. England, Carthage, Mo.; Eclectic Medical Institute, Cincinnati, 1875; also a minister; Spanish-American War veteran; aged 84; died, March 23, of senility.

George Augustus Stickney ⊕ Beverly, Mass.; Medical School of Harvard University, Boston, 1882; on the staff of the Beverly Hospital; aged 68; died, March 22.

Jesse York Fitzgerald, Indian Trail, N. C.; Jefferson Medical College of Philadelphia, 1889; aged 58; died, March 12, of pneumonia.

Samuel H. Martin, Frankfort, Ky.; Medico-Chirurgical College of Philadelphia, 1905; aged 45; died, March 23, of heart disease.

Preston A. Peak, Greenville, Texas; Missouri Medical College, St. Louis, 1887; aged 63; died, March 10, following a long illness.

William John Boynton, Sutton West, Ont., Canada; Trinity Medical College, Toronto, 1900; aged 52; died, February 6, at Chatham.

William H. Kiester, Dayton, Ohio; Medical College of Ohio, Cincinnati, 1889; aged 69; died, March 16, of cerebral hemorrhage.

Charles F. Fickling ⊕ Butler, Ga.; Southern Medical College, Atlanta, 1893; aged 55; died, March 16, of cerebral hemorrhage.

John Henry Hannahan, Needham, Ind.; Kentucky School of Medicine, Louisville, 1893; aged 62; died, March 22, of pneumonia.

Charles Allen Martin, Manhattan, Kan.; Detroit Homeopathic College, 1902; aged 51; died, March 18, of bronchopneumonia.

Zacharach Bailey Ogden, Pittsburgh; University of Pittsburgh School of Medicine, Pittsburgh, 1896; aged 56; died, March 8.

James P. Davis, Gary, Texas (licensed, Texas, under the Act of 1907); aged 71; died, March 16, at Nacogdoches, of pneumonia.

George Snow Isham ⊕ Chicago; Chicago Medical College, 1884; aged 66; died, March 26, at Pinehurst, N. C., of pneumonia.

Burton Van Zandt ⊕ Schenectady, N. Y.; Albany Medical College, New York, 1896; aged 55; died, March 20, of myocarditis.

James W. Hardy, Winterville, Miss.; University of Tennessee College of Medicine, Memphis, 1886; aged 74; died, March 20.

Charles Rudolph Paradis, Regina, Sask., Canada; Laval University Faculty of Medicine, Quebec, Que., 1910; died, January 6.

Richard Heårn, Toronto, Ont., Canada; Victoria University Medical Department, Toronto, 1883; aged 63; died, February 27.

John William Moore, Brooklyn; Long Island College Hospital, Brooklyn, 1892; aged 61; died, March 15, at Jamaica, N. Y.

William Edwin Burton, Baltimore; Baltimore Medical College, 1897; aged 63; died, March 28, following a long illness.

Lemuel Edwin Guion, Waxhaw, N. C.; North Carolina Medical College, Charlotte, 1907; aged 43; died, February 27.

James G. Pope, Coleman, Texas; Vanderbilt University Medical Department, Nashville, 1898; aged 56; died in March.

John Henry Stork, Huntingburg, Ind.; Kentucky School of Medicine, Louisville, 1888; aged 67; died suddenly, March 12.

Lewis Hamilton Evans, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, 1868; died, February 1.

Edwin M. Hunt, Cincinnati; Pulte Medical College, Cincinnati, 1876; aged 72; died, March 12, of heart disease.

Paul Riche ⊕ New York; Long Island College Hospital, Brooklyn, 1907; aged 49; died, March 23, of myocarditis.

Albert C. Vose, Marion, Mass.; Pulte Medical College, Cincinnati, 1893; aged 72; died, March 24, of diabetes.

Nelson Frank Wetmore, Tacoma Park, Md.; Eclectic Medical Institute, Cincinnati, 1876; aged 73; died, March 15.

Louis T. Boatwright, Dowling Park, Fla.; Southern Medical College, Atlanta, 1880; aged 70; died, March 19.

John Tait, Washington, D. C.; Metropolitan Medical College, New York, 1854; aged 98; died, February 24.

George Earl McCorkle, Keysville, Va.; Rush Medical College, Chicago, 1888; aged 67; died, February 21.

Allan Noxon, Toronto, Ont., Canada; Hahnemann Medical College of Philadelphia, 1869; died, January 24.

E. D. Grigg, Verona, Mo. (licensed, Missouri, 1884); Confederate veteran; aged 88; died, March 14.

John H. Groff, Indianapolis; Medical College of Indiana, Indianapolis. 1892; aged 71; died, March 7.

Thomas J. Rich, Anna, Ill.; Miami Medical College, Cincinnati, 1872; aged 80; died, March 17.

Charles H. Mead, Battle Creek, Mich. (licensed, Michigan, 1900); aged 77; died, March 23.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

IDOZAN NOT ACCEPTABLE FOR NEW AND NONOFFICIAL REMEDIES

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. Puckner, Secretary.

Idozan is an iron preparation manufactured in Denmark. According to the information furnished the Council by the distributor, Duomares Corporation, New York, the active medicinal ingredient of Idozan is "colloidal iron." According to the label, Idozan is composed of:

> "Iron 5 per cent; pure alcohol 6 per cent; sugar 10 per cent; flavoring 1 per cent; water 78 per cent."

Although this quantitative statement of composition would seem to require that the iron must be present in the metallic state, the advertising offers the information that in Idozan "the iron is in the form of the colloidal iron hydroxide as well as some crystalloidal iron salts."

Idozan, it is explained in the advertising, was produced to make possible the administration of large doses of iron recommended by some clinicians. It is stated: "In order to meet the requirements of modern therapeutics in this respect, experiments were carried out by eminent Danish investigators . . ." and that "by a special method of manufacture a solution was produced . . . ," namely, Idozan.

While these statements suggest that Idozan presents something new, the statement that it contains "colloidal iron hydroxide, as well as some crystalloidal iron salts" and the general behavior of the preparation would seem to indicate that it is essentially similar to the colloidal ferric hydroxide preparation which was in vogue as "dialyzed iron" in this country many years ago and which is described in the fifth (1910) edition of the German Pharmacopeia as Liquor Ferri oxychlorati dialysati.

The Council finds Idozan unacceptable for New and Nonofficial Remedies because the statement of its composition is indefinite and incorrect and because it is an unoriginal preparation marketed under a noninforming name.

BENZYL BENZOATE FOR THERAPEUTIC USE-VAN DYK AND CO., TWENTY PER CENT. AROMATIZED SUSPENSION MADE FROM BENZYL BENZOATE (VAN DYK AND CO.) (UNITED SYNTHETIC CHEMICAL CORP.), AND BENZYL ALCOHOL-VAN DYK & CO. OMITTED FROM N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. Puckner, Secretary.

The Synthetic Drug Corporation (formerly the United Synthetic Chemical Corp.), New York, markets a brand of benzyl benzoate-"Benzyl Benzoate for Therapeutic Use (Van Dyk & Co.)" and a preparation of it—"Twenty Per Cent. Aromatized Suspension made from Benzyl Benzoate (Van Dyk & Co.)." The advertising for these preparations is based on the enthusiastic reports which were published when benzyl esters were first used experimentally in medicine and recommends the use of the firm's preparations in "Biliary Colic," "Ureteral or Renal Colic," "Hypertension," "(Asthma)," 'Mucous Colitis—Biliary Colic in these conditions it has been found to be equally as efficacious as opium," "Renal Colic; Enuresis when due to hyperirritable bladder and sphincter," "Asthma (True Bronchial Spasm) all data concerning the Benzyl therapy of asthma seems to show that Benzyl Benzoate is an invaluable drug in the treatment of asthma," "Arteriosclerosis."

In 1924 the Council reported (The Journal, Dec. 6, 1924, p. 1864) that extensive clinical use of benzyl esters does not seem to confirm the enthusiastic estimate of their early advocates and that the indications are that they will prove only of limited usefulness. An inquiry addressed to a number of clinicians disclosed an almost unanimous opinion against the value of these esters so far as most of the recommended uses were concerned. The benzyl esters apparently give relief in a certain proportion of cases of dysmenorrhea; a small percentage of angina and of intestinal colic appear to be benefited by their use. They have been found without effect in hypertension and they are probably without effect in asthma, or renal or biliary colic.

In consideration of the revised estimate of the therapeutic usefulness of benzyl esters, the Council urged the Synthetic Drug Corporation to undertake a revision of its advertising. This revision was not made. The Council therefore directed the omission of "Benzyl Benzoate for Therapeutic Use (Van Dyk & Co.)" and "Twenty Per Cent. Aromatized Suspension made from Benzyl Benzoate (Van Dyk & Co.) (United Synthetic Chemical Corp.)" from New and Nonofficial Remedies.

Benzyl Alcohol (Van Dyk & Co.) was accepted in 1919 as a brand of benzyl alcohol, N. N. R. Recently the distributors —Synthetic Drug Corporation—have adopted the name "Benzylol" for it and claim this name as a "word mark."

According to the label "Benzylol (Van Dyk & Co.)" was "accepted by the Council Pharm. and Chem. for N. N. R., 1919."

This is misleading. Neither Van Dyk & Co. nor the Synthetic Drug Corporation are the discoverers of benzyl alcohol and therefore the Council cannot recognize an exclusive name applied to the product by these firms.

The Council omitted Benzyl Alcohol (Van Dyk & Co.) from New and Nonofficial Remedies because it is no longer marketed under this name. It held "Benzylol" unacceptable because it is not in the interest of rational therapy that the well known substance benzyl alcohol be marketed under proprietary names.

BISMUTHAL OMITTED FROM N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. Puckner, Secretary.

Bismuthal is a mixture containing an insoluble bismuth citrate and pepsin as its active ingredients, with hydrochloric acid and lactic acid to protect the pepsin, and flavoring ingredients. It was formerly marketed by the National Pharmacy Company, Oakland, Calif., and is now owned by Langley & Michaels Company, San Francisco.

Bismuthal was accepted in 1909. At that time an extended clinical practice of prescribing mixtures containing a bismuth preparation and pepsin appeared to the Council to justify its acceptance.

During recent years the prescribing of pepsin in combination with other therapeutic agents has been generally abandoned by physicians. This change is forcibly brought out in the report of W. A. Bastedo on "The Use and Utility of Digestive Enzymes in Therapeutics" (The Journal, Sept. 5, 1925, p. 743).

The Council directed the omission of Bismuthal from New and Nonofficial Remedies on the ground that the routine combination of a bismuth compound and pepsin in the form of a stock preparation is unscientific and not in the interest of rational therapy.

Tularemia with Conjunctivitis.—H. L. Freese, G. C. Lake and Edward Francis report four cases of tularemia with conjunctivitis, three with fatal termination, occurring in a family of eight persons in Lee County, Va., in 1925. Rabbits were often eaten by all members of the family except the mother, and that they were dressed by the mother or her husband. Apparently authentic information was obtained that a typical epidemic among rabbits had occurred in the locality in May, 1925. Although the bacillus of tularemia is readily killed in ten minutes at from 56 to 58 C., cooking experiments performed by the authors demonstrated the fact that an infected rabbit which has been insufficiently cooked would be dangerous as food.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ANAPHYLACTIC REACTIONS FOLLOWING TOXIN-ANTITOXIN INJECTIONS

To the Editor:—Have you any information on anaphylactic reactions following the administration of serums to children previously immunized against diphtheria with toxin-antitoxin? The planning of an immunization campaign in Ironwood has been interrupted by unfavorable reports coming from Minneapolis (Dr. Stewart's article, THE JOURNAL, January 9) and from Grand Rapids, Mich. Will you kindly give me your opinion and what information you have on the subject?

LOUIS DORPAT, M.D., Ironwood, Mich.

ANSWER.—S. B. Hooker (Human Hypersensitiveness Induced by Very Small Amounts of Horse Serum, *J. Immunol.* **9**:7 [Jan.] 1924) found that after toxin-antitoxin injections a noteworthy proportion of the persons became sensitive to horse serum when tested by specific intradermal reactions. William H. Park confirmed Hooker's results in general, but did not find any occasion from his experience in New York City to fear that the sensitizing effects of the toxin-antitoxin injections would lead to any serious results on subcutaneous or intramuscular injections of antidiphtheria serum later in persons free from evidences of status lymphaticus or horse asthma (*J. Immunol.* **9**:17 [Jan.] 1924). Dr. Stewart's recent report of anaphylactic reactions on injection of serum in seven children previously immunized against diphtheria by means of toxin-antitoxin indicates on the face of it that in certain cases sensitization may result from the toxin-antitoxin injections, but the possibility should be noted that for all we know severe reactions might have resulted in some at least of Stewart's cases, even if toxin-antitoxin had not been injected. In his report, Stewart does not say whether any of his seven patients were subject to horse asthma. In any case, there can be no question but that immunization against diphtheria without the introduction at the same time of foreign animal protein would be an advance of great advantage.

The letter of Dr. Dorpat, together with the reply, were submitted to Dr. W. H. Park of New York, who adds:

Dr. Stewart's recent report of anaphylactic reactions on injection of serum in seven children previously immunized against diphtheria by means of toxin-antitoxin stimulated me to make a comparative test of children who had and had not received toxin-antitoxin. The first test was in a group of seventy children, twenty-five of whom had had toxin-antitoxin and forty-five had received no toxin-antitoxin. They had been thoroughly exposed to scarlet fever and were given 10 cc. of antiscarlatinal serum. Within twenty-four hours some of the children began to develop higher temperatures and severe rashes, and within forty-eight hours twenty of the children were sick enough to remain in bed; some of the temperatures were as high as 104. The rashes were giant urticarial or scarlatinal in type, or the two types occurred in the same child. When the cases were compared as to the reaction in those who had and had not received toxin-antitoxin, there was no appreciable difference between them. (Dr. Park does not state whether serums were crude or concentrated—an important factor.—ED.)

As a further test I injected fifteen healthy children with 5,000 units of diphtheria antitoxin who had never received toxin-antitoxin injections, and fifteen healthy children with the same amount of diphtheria antitoxin who had had toxin-antitoxin injections. In none of these cases did any appreciable disturbance result, and there was practically no difference in the percentage of reactions in the two groups. It seems to me, therefore, that the reactions in the cases described by Dr. Stewart were not due to the fact the children had had toxin-antitoxin but rather to the fact that the antiscarlatinal serum is more apt to create disturbance than the diphtheria antitoxin. The reactions as described are not those of anaphylaxis but rather of serum sickness.

The question is now being studied in a number of laboratories as to the substitution of diphtheria toxoid for toxin-antitoxin. The toxoid is being used in Canada, in France and in Austria, while toxin-antitoxin or toxoid antitoxin is being used in the United States and in England. It is my belief that in a short time the diphtheria toxoid will be equally well standardized with toxin-antitoxin and that it will replace it, but there is no reason to hurry this change. It is better to use the toxin-antitoxin in the United States until the toxoid has been thoroughly proved and perfected, and then a final change should be made. We have in New York had no reason to believe that sensitization from the minute amount of serum in toxin-antitoxin creates any appreciable objection. At the present time the toxoid is more irritating in older children and adults because of the larger amount of protein it contains, while the toxin-antitoxin is slightly more irritating in young children because it is a slightly underneutralized mixture.

THE HUMAN RADIO AERIAL

To the Editor:—A friend of mine, a chemical engineer, discovered that the human body may act as a very good substitute for the usual radio aerial, but apparently not for *all* wave lengths. He has a five tube set. With either one of us touching the aerial connection, and the aerial disconnected from the set and ourselves, station KMOX (280 meters), for instance, can be brought in as plain as with the usual aerial. The detector dial setting, however, has to be quite different. The tighter the connection is gripped by the subject, the greater the volume. We have not been able to bring in KSD (545 meters) in this manner, although with the usual aerial it comes in very strong. The result is the same whether the subject stands directly on the floor or on a glass plate.

If the regular aerial is disconnected, and the set connected to about 60 feet of insulated copper wire wound on the lid of a cigar box, nothing can be brought in. If, now, one subject puts his hand on the insulated wire, KMOX can be brought in very well; the closer he presses his hand the larger the volume. If now the other subject puts his hand over another part of the insulated wire, the volume diminishes.

I am not a radio fan myself, but I am curious to know something about the physiology of these phenomena. Of what importance are they in the present state of our knowledge? Is there any literature on the subject? An answer, either through THE JOURNAL or direct, will be appreciated.

F. W. L. TYDEMAN, M.D., Wood River, Ill.

ANSWER.—All radio sets are tuned by adjusting inductance and capacity until the set as a whole is brought into resonance with the incoming carrier wave. The aerial is to be considered a part of the set, and changing its length will obviously change the inductance-capacity balance, and adjustment of the controls is necessary to bring again the set into resonance. When the human body was acting as an aerial, the equipment in the set was not adjusted (probably not adjustable) to the value necessary to bring the set into resonance at 545 meters.

Radio frequency discharges are not new. Electric motors, dynamos, storms and electrical disturbances of various kinds propagate them and they have been acting on the human body for years with an unknown but probably negligible effect. The physiologic effect of waves from radio broadcasting, to our knowledge, has never been discussed.

IRRITATION FOLLOWING SHAVING CREAMS

To the Editor:—I have had patients who complain of a condition resembling a mild eczema following prolonged use of soap-free shaving preparations (such as "Molle" and "Barbasol"). Have you information concerning the general composition of such preparations? Please use initials only.

H. W. S., M.D., Washington, D. C.

ANSWER.—These "soap free" shaving preparations are generally soaps, some of them prepared from potassium carbonate soaps containing spermaceti, others from potassium hydroxide or ammonium hydroxide with fats, egg white, alcohol and perfumes. Glycerin is also a frequent ingredient. Most of them are alkaline and may irritate as any soap does, by removing fat from the skin; others are superfatted. Irritation may be aggravated by the recommendation not to wash or rinse the face after shaving, but to permit the "cream" to dry.

PRESCRIPTION FOR HEXYLRESORCINOL

To the Editor:—Please advise me how I should write a prescription for hexylresorcinol, in both systems, for a girl of 13, with a *Bacillus coli* infection of the urinary tract, and also the adult dose of the drug.

A. L. H. MACNEILL, M.D., Cabri, Sask.

ANSWER.—Hexylresorcinol is best administered by mouth in elastic capsules, each capsule containing 0.15 Gm. in a 25 per cent solution in olive oil. The patient, being 13 years old, might be able to swallow such capsules. If not, it would be advisable to prescribe the 2½ per cent olive oil solution which is supplied by the manufacturer (New and Nonofficial Remedies Department, THE JOURNAL, Aug. 8, 1925, p. 437):

Caprokol (Hexylresorcinol-S. & D.) 2½ per cent solution in olive oil, 60 cc.

Label: Teaspoonful three times a day after meals.

GALVANIC AND FARADIC CURRENT FOR PARALYSIS

To the Editor:—I want to use a light galvanic and faradic current for such things as facial paralysis, and I am in doubt what to get, if any. I have been told that the wall plan (connected up with direct current) is the thing, by others that the small dry cell batteries are best. Can you let me know which is best? I favor the small battery on account of its portability, but I do not want it if it is not the thing.

Edward J. Bernstein, M.D., Detroit.

Answer.—For the purpose stated, the galvanic current from a dry cell battery is sufficient. The galvanic current should be used only when the muscles will not respond to the faradic current, and then only for a few contractions of each muscle. When the muscles respond to the faradic current, a good instrument to use is the Bristow coil, which gives a sinusoidal faradic current. The use of this instrument is fully described in Jones' "Orthopedic Surgery of Injuries."

STAINING FLAGELLA — BACTERIOPHAGE — HEMAGGLUTINATION

To the Editor:—1. Please publish the Plimmer, McCrorie and Shunk methods for staining flagella of motile bacteria. 2. What are bacteriophages? How are they cultivated and demonstrated? Can the specific bacteriophages be used beneficially for administration to patients having the corresponding infection? 3. Is it necessary to test blood for agglutination previous to transfusion in the case of a new-born child? Please omit name.

M. J., Wisconsin.

Answer.—1. In the Plimmer method (*J. Path. & Bacteriol.* **24**:286 [July] 1921), a film is prepared on a warm slide, allowed to dry in air, and not fixed. One part of stain is mixed with four parts of water in a tube, the tube is inverted three or four times, and the mixture is filtered on the slide. The stain is allowed to act for sixty seconds and is washed under the tap. The film is flooded with cold "carbolfuchsin" solution for five minutes, washed, dried and examined. The stain is made of

Tannic acid	10 Gm.
Aluminum chloride (hydrated)	18 Gm.
Zinc chloride	10 Gm.
Rosaniline hydrochloride	1.5 Gm.
Alcohol (60 per cent)	40 Cc.

The dry ingredients are placed in a mortar and triturated with 10 cc. of the alcohol. When a homogeneous paste is formed, the rest of the alcohol is slowly stirred in. A deep red, viscous solution is obtained.

In McCrorie's method (Partridge, Aids to Bacteriology, ed. 4, p. 53), a fixed film is stained for two minutes with a mixture of solutions A and B.

SOLUTION B

Tannic acid	1 Gm.
Hot water	20 Cc.

After solution, there is added 1 Gm. of alum dissolved in 20 cc. of cold water.

SOLUTION A

McCrorie's night blue	0.5 Gm.
Dehydrated alcohol	20 Cc.

A is added to B slowly, with gentle shaking.

The Shunk method (*J. Bacteriol.* **5**:181 [March] 1920) is a modification of Loeffler's method. A film is prepared on a cover slip and dried in air. It should not be fixed with heat. It is covered with 8 drops of solution A, and then 1 drop of solution B is added. After it has acted at room temperature for two minutes, it is washed with water and drained (not blotted). It is stained for two or three minutes, washed, allowed to dry, and examined.

SOLUTION A

Ferric chloride solution, 1:20	1 part
Tannic acid, saturated solution	3 parts

SOLUTION B

Aniline	1 part
Alcohol, U. S. P.	4 parts

STAIN

Methylene blue, saturated alcoholic solution	30 parts
Potassium hydroxide solution, 1:10,000	100 parts
Solution B	13 parts

2. Some years ago, Twort observed transparent areas in growths of certain staphylococcus cultures. The organisms had apparently been dissolved. The lytic substance could be transferred to other cultures. Later, d'Herelle noticed the same phenomenon with dysentery cultures, found the lytic principle in filtrates from cultures, and obtained it in stools from dysentery patients. This lytic substance is known as bacteriophage. The nature of the bacteriophage is still a matter of dispute, particularly as to whether it is a living organism or is nonliving material formed during bacterial metabolism, possibly related to enzymes. The best method of demonstration is by means of agar plate cultures. The specificity of the bacteriophage is doubtful (Bacteriophage News, editorial, The Journal, Dec. 26, 1925, p. 2037). Attempts have been made to use bacteriophage as a therapeutic agent, but uniform success has not been attained.

3. When blood transfusion is made in new-born babies by means of intramuscular injections, it is not necessary to type the blood. For intravenous injection, blood should be typed.

COAL TAR ODOR—TREATMENT OF GASOLINE POISONING

To the Editor:—1. One of our butchers had a refrigerator built in his shop. It was lined with cork and coal tar, and lastly plastered over the cork and tar. Meat stored in it takes on the smell of coal tar. Is there some fumigation that will neutralize the effect of the coal tar? 2. What is the best treatment for a patient who has swallowed gasoline?

Gaylord Worstell, M.D., Big Sandy, Mont.

Answer.—1. The only solution is to correct the condition at the source. Free circulating cold air would be the only safe agency to apply to the affected meat, and it is a question, of course, how effective this would be.

2. In the treatment of gasoline poisoning, evacuation of the stomach by emetics, and preferably by lavage, is the most important item to secure. It seems that, owing to the insolubility in and immiscibility of the agent with water, liberal quantities of oil might be used with advantage in the lavage, the oil to be subsequently removed as completely as possible by washing with water. There is no known antidote. Artificial respiration should be instituted early if there are indications of failure of respiration, and maintained resolutely for as long a time as there may seem the least possibility of resuscitation, as we deal here with an agent that not only depresses the respiratory center, but is also especially and rather rapidly eliminated by way of the respiratory tract. Possibly respiratory stimulants such as strychine or atropine may be of use. Emollients and protectives are to be employed in the treatment of resulting gastro-intestinal irritation.

FABRE'S TEST FOR BARBITAL

To the Editor:—In The Journal, April 11, 1925, reference was made to Fabre's test for barbital. As I have been unable to locate the technic for this, will you please provide me with this information?

R. C. Satterlee, San Diego, Calif.

Answer.—The chemical reaction is based on the formation of certain crystalline dixanthyl compounds of hypnotics derived from barbituric acid, developed in the presence of acetic acid which among other characteristics are identifiable by their melting points. The procedure is: To an acetic acid solution of barbital (1 Gm. to 10 cc. of acetic acid), 2 Gm. of xanthydrol is added. The mixture is brought to the boiling point; on cooling, a crystalline precipitate is produced, which slowly becomes more abundant. After a few hours, the latter is allowed to dry (centrifugalized) and the excess of barbital and of xanthydrol are removed by successive washing with hot alcohol. It is recrystallized from benzene in the form of small colorless prismatic crystals, melting at from 245 to 246 C. The crystals are soluble in benzene and slightly soluble in acetic acid and warm alcohol. In his article (Sur une réaction du véronal et des hynotiques dérivés de l'acide barbiturique, applications, *J. de Pharm. et de chim.* **2**:241, 1922) René Fabre gives the technic that should be followed for the toxicologic determination of barbital and its derivatives using this reaction.

AMERICAN CARBONIC ACID NAUHEIM BATHS

To the Editor:—In Queries and Minor Notes (The Journal, March 6, p. 709) I saw the information you give in regard to carbonic acid Nauheim baths. You do not mention the springs of which I spoke in my book on Sexual Impotence (ed. 6, Philadelphia, W. B. Saunders Company, 1920). These springs, unfortunately, were called Vichy, which only shows the ignorance of the owners. It is, however, a fact that these springs outnauheim in every respect Nauheim itself, and anything that ever was attempted in the shape of carbonic acid gas baths.

The water of these springs, located near Ukiah, in California, has the proper temperature and flows day and night. I personally consider these baths excellent, but, and again unfortunately, the accommodations and the table are rather modest, and the modern luxury-loving public ignores the place.

Victor G. Vecki, M.D., San Francisco.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

American Board of Otolaryngology, Texas: Dallas, April 19, California: San Francisco, April 27. Sec., Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

Arkansas: Little Rock, May 11-12. Sec., Dr. J. W. Walker, Fayetteville. Homeo. Board, Little Rock, May 11. Sec., Dr. A. A. Pringle, Eureka Springs. Eclectic Board, Little Rock, May 11. Sec., Dr. Claude E. Laws, Fort Smith.

Georgia: Atlanta, June 9-11; Augusta, June 1-3. Sec., Dr. C. T. Nolan, Marietta, Ga.

Michigan: Ann Arbor, June 8-10. Detroit, June 14-16. Sec., Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

National Board of Medical Examiners: Part I, June 21-23; Part II, June 22-23. All applications should be made on or before May 15. Sec., Dr. J. S. Rodman, 1600 Walnut Street, Philadelphia.

Nebraska: Omaha, June 8-10. Director, Bur. of Exam. Bds., Mrs. Clark Perkins, Lincoln.

Nevada: Carson City, May 3. Sec., Dr. Simon L. Lee, Carson City.

Colorado January Examination

Dr. David A. Strickler, secretary of the Colorado Board of Medical Examiners, reports the written examination held at Denver, Jan. 5, 1926. The examination covered 8 subjects and included 80 questions. An average of 75 per cent was required to pass. Of the 10 candidates who took the physicians' and surgeons' examination, 5, including 1 undergraduate, passed and 5, including 2 osteopaths, failed. Fourteen candidates were licensed by reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
College of Physicians and Surgeons, Boston	(1925)	84.1
Kansas City University of Physicians and Surgeons	(1924)	76.3
National University of Ireland, Dublin	(1924)	83.1
University of Amsterdam, Netherlands	(1919)*	89.3
Undergraduate		80.5

College FAILED	Year Grad.	Per Cent
Kansas City College of Medicine and Surgery	(1924)	64
St. Louis College of Phys. and Surgs.	(1923) 70.8, (1924)	73.8
Osteopaths		64.8, 73

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery	(1917)	Illinois
Northwestern Univ. Medical School	(1905) Illinois, (1918)	California
Kansas Medical College, Topeka	(1909)	Kansas
Harvard University	(1921)	Connecticut
National University of Arts and Sciences, St. Louis	(1915)	Missouri
St. Louis University School of Medicine	(1924)	Missouri
University of Nebraska School of Medicine	(1918)	Nebraska
University of Pennsylvania School of Medicine	(1920)	Utah
Meharry Medical College	(1895)	Texas
Vanderbilt University School of Medicine	(1913), (1916)	Tennessee
Medical College of Virginia	(1915)	Virginia
Chiba Special Medical School, Japan	(1918)*	Nevada

* Verification in process.

Kansas February Examination

Dr. A. S. Ross, secretary of the Kansas State Board of Medical Registration and Examination reports the written examination held at Topeka, Feb. 9-10, 1926. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Eight candidates were examined, all of whom passed. Ten candidates were licensed by reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
University of Colorado School of Medicine	(1925)	92.1
Chicago Homeopathic Medical College	(1902)	80
Rush Medical College	(1900)	93.8
St. Louis University School of Medicine	(1925) 86.6, (1926)	88.8
University of Pennsylvania School of Medicine	(1925)	90.8, 90.9
Meharry Medical College	(1925)	89.3

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Hahnemann Medical College and Hospital, Chicago	(1886)	Michigan
Louisville Medical College, Louisville	(1904)	Washington
University of Louisville School of Medicine	(1924)	Kentucky
Creighton Medical College	(1924)	Nebraska
Univ. of Nebraska School of Med.	(1923), (1924), (1925)	Nebraska
Ohio Medical University, Columbus	(1903)	California
Chattanooga Medical College	(1905)	Oklahoma
Vanderbilt University School of Medicine	(1916)	Kentucky

Book Notices

Insulin. Its Use in the Treatment of Diabetes. Part I—Physiology. By J. J. R. Macleod, Departments of Medicine and Physiotherapy, University of Toronto. Part II—Clinical Section. By W. R. Campbell, Departments of Medicine and Physiotherapy University of Toronto. Medicine Monographs. Volume VI. Cloth. Price, $4. Pp. 242, with 6 illustrations. *Baltimore: Williams & Wilkins Company, 1925.*

In this volume the authors bring together much of the work that has already appeared in various publications. The first part deals with points of historical interest, a description of the methods of preparation of insulin, the sources of supply and the theories of its action. Beginning with the effects of pancreatectomy as first described by Minkowski, the authors trace the development of the study of diabetes through the work of Szobalew, Schults, Zuelzer, Knowlton, Starling, Grey, Scott, Murlin and Kleiner to that culminating in the discovery of insulin by Banting and Best. Several methods of preparation of insulin are described. The theory of the action of insulin most acceptable to the authors is that insulin has some effect on sugar metabolism which helps glucose to pass through a glycogen state, in order to proceed to final oxidation. Although absolute proof of this theory is not at hand, experimental evidence favoring this view has been adduced. The action of insulin in restoring to normal the migration of fat between the liver and the tissues, its effect on oxidation and on raising the respiratory quotient, its varying action on protein-derived and actual carbohydrates, its effect on the passage of sugar through the tissues, the association of carbohydrates and phosphates (the hexo phosphates) and the determination of the value of the unit are described in detail. The second part is devoted to a clinical consideration of insulin in metabolism, the diagnosis and treatment of diabetes and a listing of many diets, tables and recipes for the physician's use. That "insulin is a crutch which slips at times" is a statement worth remembering. Dr. Campbell recommends the slow addition of insulin and agrees with many workers that the maintenance of a low blood sugar is advisable. The thoroughness and simplicity, its conservatism, and the excellent manner of presentation, together with its intrinsic value, will recommend this book to all physicians and students of diabetes.

Die Chirurgie. Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner und Prof. Dr. O. Nordmann. Lieferung 5, Band VI. Die Chirurgie der Niere, des Nierenbeckens und des Harnleiters. Von Prof. Dr. P. Frangenheim und Priv.-Doz. Dr. E. Wehner. Die Chirurgie der Harnröhre. Von Priv.-Doz. Dr. E. Wehner. Die Chirurgie des Penis und Scrotums. Von Priv.-Doz. Dr. E. Wehner. Die Chirurgie des Hodens, Nebenhodens, Samenstranges und der Scheidenhäute. Von Priv.-Doz. Dr. E. Wehner. Paper. Price, 27 marks. Pp. 229-750, with 108 illustrations. Berlin: Urban & Schwarzenberg, 1925.

The fifth section of this work is devoted to the surgery of the kidney, ureters and male genitalia. The method of dealing with the various topics is similar to that in the sections which have thus far appeared. The subject matter, however, is treated much more comprehensively and at greater length. The first part of the book, the part dealing with the kidney and ureters, is written by Frangenheim and Wehner, and the rest of the book by Wehner.

The Science of Biology. An Introductory Study. By George G. Scott, Ph.D., Associate Professor of Biology in the College of the City of New York. Cloth. Price, $3.50 net. Pp. 617. New York: Thomas Y. Crowell Company, 1925.

The author apparently conceived a plan that he was unable to justify in his unhappily named textbook. In general, this plan is that laid down by the taxonomist. To treat plants and animals virtually order by order, along with a consideration of all branches of biology, in a single book, presents a stupendous task which should require much thought as to organization and balance, in addition to thorough command of scientific fact. But it is difficult to say whether the chaotic arrangement of material or the complete innocence of scientific knowledge is the more glaring. The text is couched in pitiful English, which of itself would convey a confused meaning.

A jerky style, in which sentence follows sentence with no evident interrelationship, contributes to the general confusion. On page 447, one marvels at the extremes to which precocity goes when "Cases have occurred in which there was an unusually early development in children of secondary sex organs." It is implied on page 310 that the egg of the duckbill can swim: "Eggs, about ¾ inch long, with yolk and a shell, are laid at the ends of burrows in river banks. The animal is also aquatic in its habits." Again, on page 255 a strange picture comes to mind where the dogfish "skull consists of a cartilaginous box-like cranium enclosing the brain and the visceral skeleton." In a paragraph on spawning (page 267) the closing sentences are: "Some eggs hatch in less than a day's time. A month is needed in the case of salmon. Some deep sea fish have *luminescent* organs." Practically every page offers similar examples. Even more surprising are the gross errors of fact. On page 319 we learn that "the narwhal has a long, twisted bony beak in front." Conscientious taxonomists will note with alarm that the badger, marten and weasel (page 329) are no longer mustelids, but bears (Ursidae). The homologies which the author apparently implies (pages 357-358) between the anterior and the posterior limbs are thoroughly misleading. Assuming that Professor Scott wished to avoid presenting involved or complicated ideas to immature students, it is decidedly unfair, even for the sake of simplicity, to create erroneous impressions. Moreover, he cites difficult chemical and biometric formulas which assume well advanced training on the part of the reader. With the word Diptera before him, Professor Scott describes them (page 235) as "the flies which have two pairs of wings on the mesothorax." Practically every school boy knows that no spider or daddy long legs has pincers, but in the description of the class Arachnida (page 245) "the first pair of appendages are nippers." In view of the frequent descriptions of the evolution of the horse, it would seem scarcely possible to go far wrong. In two pages (478-480) there are no less than nine errors and nine verbal *infelicities.* One example should be more than enough. "The upper surface of the teeth is ground flat and continued to grow as it wore away." Instances could be multiplied, but a fitting climax can be quoted from the section on Carnivora (page 327): "Their movements [are] full of grace and beauty oftentimes marred by stealth and cunning." There are a number of original drawings which, on the whole, are on a par with the text in value and accuracy. On page 225, in the diagram of the intestinal tract of the cockroach, various parts are mislabeled and the intestine is omitted entirely. Other figures (pages 180, 250, 275 and 296) are fortunately labeled to aid in recognition. The large number of illustrations reproduced from other sources are distinctly the best part of the book. Many of them are worthy of a better fate.

Abhandlungen aus der Neurologie, Psychiatrie, Psychologie und ihren Grenzgebieten. Herausgegeben von K. Bonhoeffer. Heft 32. Familienpsychosen im schizophrenen Erbkreis (Psychosen bei den Eltern von Dementia Praecox-Kranken). Von Dr. Hermann Hoffmann, Privatdozent für Neurologie und Psychiatrie an der Universität Tübingen. Paper. Price, 7.20 marks. Pp. 120, with 8 illustrations. Berlin: S. Karger, 1926.

The author has studied the families of patients with schizophrenia and determined the psychosis present in each member. He roughly classifies each of the individuals of his series, according to the modern trend, into schizoid, cyclothymic and mixed personalities. He gives the following interesting figures: in schizophrenic patients, both parents were schizoid in 52 per cent, one parent in 46 per cent, and neither parent in only 2 per cent. Between 40 and 50 per cent of the collaterals were schizoid, 25 per cent cycloid, and only 11 per cent of the mixed type. The author finds that the majority of schizophrenic patients come from families which have contained one or more members suffering from the same psychosis. The same observation holds true for manic-depressive insanity. In both these groups, the patient before the development of his psychosis is usually schizoid in the schizophrenic and cyclothymic in the manic-depressive. When a patient with schizophrenia has had a cyclothymic personality, his psychosis is not typical, and when it has been schizoid his psychosis is pure and has a typical symptomatology. The author believes that for each great group of psychosis there is a specific anlage which is inherited in the form of a general disposition for the development of a type of psychosis. His statistical work is convincing.

Acute Infectious Diseases. A Handbook for Practitioners and Students. By J. D. Rolleston, M.A., M.D., Senior Assistant Medical Officer, Grove Fever Hospital, London. Cloth. Price, $5. Pp. 376. New York: Physicians & Surgeons Book Company, 1925.

Dr. Rolleston has written clear and brief accounts of the chief acute infectious diseases, those ordinarily treated in isolation hospitals. Typhoid and typhus fevers are included, but poliomyelitis, encephalitis and others are not. The clinical aspects, symptoms and treatment are given fully, the etiology and morbid changes more briefly. Some of the recent advances in the field are discussed, such as the prevention of measles with the blood and serum of convalescents, although there is no mention of the treatment of scarlet fever with antitoxin. The historical notes at the beginning of each chapter are interesting, and the bibliographic notes at the end are helpful in further reading on the various subjects.

Pathologisch-anatomische Studien über die Osteodystrophia fibrosa (Sog. Ostitis fibrosa v. Recklinghausen). Akademische Abhandlung zur Erlangung der medizinischen Doktorwürde mit Genehmigung der weiterfahrenen medizinischen Fakultät zu Uppsala Vorgelegt. Von Ture Stenholm. Fil. Mag., Norrl. Paper. Pp. 211, with illustrations. Uppsala: Almqvist & Wiksells, 1924.

This discusses the subject of osteitis fibrosa of von Recklinghausen from the standpoint of pathologic anatomy. Twelve cases are reported. Various types of osteitis fibrosa are discussed, chiefly under the two headings of (1) metaplastic malacia, or *osteitis fibrosa of von Recklinghausen,* and (2) hypertrophic metaplastic malacia, or osteitis deformans of Paget. The monograph contains a complete bibliography, and several excellent illustrations, some of which are in color.

Methods in Surgery. Used in the Surgical Divisions of Barnes Hospital, St. Louis Children's Hospital, and Washington University Dispensary. Including outlines for case history-taking, preoperative and postoperative care of patients, routines, diets, etc. By Glover H. Copher, M.D., Instructor in Surgery, Washington University School of Medicine. Cloth. Price, $3. Pp. 232. St. Louis: C. V. Mosby Company, 1925.

This is a working manual of hospital routine written primarily for the guidance of house officers and students of Washington University School of Medicine working in the surgical divisions of Barnes Hospital, the St. Louis Children's Hospital, and the Washington University Dispensary. The chapters embrace history taking, roentgen-ray department rules, ward and operating room routine, postoperative treatment, and care of special types of cases, as in plastic, neurosurgical, gynecologic and genito-urinary operations. The book is brief, yet covers the material in close detail. A complete set of chart forms and special diets is presented. Since it represents the work of an excellent hospital organization, it merits the attention of the resident staff of other hospitals and also of the young surgeon in practice.

La tétanie infantile. Recherches cliniques et expérimentales. Par. R.-A. Turpin. Préface du Docteur E. Lesne. Paper. Price, 16 francs. Pp. 223, with illustrations. Paris: Masson et Cie, 1925.

This is an excellent combination of experimental and clinical medicine. Furthermore, it has the advantage of expressing the personal work of the author. A sufficient historical and bibliographic division, and a comprehensive discussion of modern conceptions of the acid-base balance of the body make it complete. The relationship of alkalosis and blood calcium deficiency to spasmophilia and to tetany is well brought out, particularly in the detailed case reports. The outline of the analytic methods is adequate.

Handbook of Pathology. By C. Y. Wang, M.D., B.Sc., F.R.C.P., Professor of Pathology in University of Hongkong. Cloth. Price, $7. Pp. 513, with 282 illustrations. New York: William Wood & Co., 1925.

This is a short descriptive pathology, a classification of the chief morbid changes, with their etiology, and gross and microscopic appearance as they occur in the different organs. There is no theoretical discussion and no discussion of controversial subjects, such as the pathogenesis of edema or the origin of tumors. The material is arranged according to the etiology or the character of the changes, without a special part dealing with the pathology of the different organ systems. The book would be useful chiefly for students as a preliminary survey of the subject and would have to be supplemented by a more extensive work. Its small size and brevity make it convenient for rapid reference or review.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

Anatomie cérébrale les noyaux gris centraux et la région mésencéphalo-sous-optique. Suivi d'un appendice sur l'anatomie pathologique de la maladie de Parkinson. Par Ch. Foix, professeur agrégé a la Faculté de médecine de Paris, et J. Nicolesco, assistant d'histologie a la Faculté de médecine de Bucarest. Cloth. Price, 100 francs. Pp. 581, with 62 illustrations. Paris: Masson & Cie, 1925.

Neurologic anatomy, with especial reference to Parkinson's disease.

Étude analytique et synthétique de la sympathectomie périartérielle appliquée au traitement des ulcères chroniques des membres inférieurs. Physiopathologie et résultats immédiats et éloignés de la denudation arterielle. Par le Docteur Guillermo García-Diaz, de la Faculté de médecine de Paris et de Buenos-Aires. Paper. Pp. 281, with illustrations. Paris, Le François, 1925.

Periarterial sympathectomy for ulcers of the leg.

Clinique médicale de l'hôpital Beaujon. Par Ch. Achard, Professeur de clinique medicale a la Faculté de médecine de Paris. Deuxième série. Paper. Price, 24 francs. Pp. 336, with 66 illustrations. Paris: Masson & Cie, 1925.

Considerations of gout, diabetes, syringomyelia and cirrhosis of the liver, based on study of specific cases.

Health Control in Mercantile Life. A Problem of Conserving Human Energy. By Arthur Brewster Emmons, 2d, A.B., M.D., Director, Harvard Mercantile Health Work, Boston. Cloth. Price, $3. Pp. 234, with illustrations. New York: Harper & Brothers, 1926.

Easily readable study of health conditions in stores, well illustrated and full of practical advice.

Ophthalmic Neuro-Myology. A Study of the Normal and Abnormal Actions of the Ocular Muscles from the Brain Side of the Question. By G. C. Savage, M.D., LL.D. Second edition. Cloth. Price, $3. Pp. 227, with illustrations. Nashville, 1926.

New edition of standard work, with some revisions because of new discoveries as to ophthalmic axes of rotation.

A Manual of the Parasitic Protozoa of Man. By Charles F. Craig, M.D., M.A., Lieutenant-Colonel, Medical Corps, U. S. Army, D.S.M. Cloth. Price, $7. Pp. 569, with 95 illustrations. Philadelphia; J. B. Lippincott Company, 1926.

Complete and authoritative presentation for use of student and practitioner.

Handbuch der Physiologie der niederen Sinne. Von Emil von Skramlik, a. o. Professor der Physiologie an der Universitat, Freiburg, i. B. I Band. Die Physiologie des Geruchs und Geschmackssinnes. Paper. Price, 31.50 marks. Pp. 532, with 70 illustrations. Leipsic: Georg Thieme, 1926.

Highly technical details on physiology of smell and taste.

Episodische Dämmerzustände. Ein Beitrag zur Kenntnis der konstitutionellen Geistesstörungen. Von Professor Dr. K. Kleist, Direktor der psychiatrischen und Nervenklinik Frankfurt a. M. Paper. Price, 3.60 marks. Pp. 80. Leipsic: Georg Thieme, 1926.

Case reports and psychiatric studies of various psychopathic types.

Methods of Investigating Ventilation and Its Effects. By H. M. Vernon and Others. Medical Research Council. Special Report Series, No. 100. London: His Majesty's Stationery Office, 1926.

Shows that temperature and clothing are more important in regulating body temperature than is air velocity.

Food Prescriptions for Overweight. By Harrington Bennett Monroe, M.D. Cloth. Price, $1.50. Pp. 50. Los Angeles: McCulloch Press, 1925.

Sensible advice, sensibly presented.

Old Masterpieces in Surgery. Being a Collection of Thoughts and Observations Engendered by a Perusal of Some of the Works of Our Forebears in Surgery Which Appeared in Serial Form in Surgery, Gynecology and Obstetrics During 1924 and 1925. By Alfred Brown, M.D. Privately published. Omaha, 1926.

Well illustrated collection of essays of historical interest.

Nephritis. By Herman Elwyn, M.D., Assistant Visiting Physician, Gouverneur Hospital, New York, N. Y. Cloth. Price, $5. Pp. 347, with 2 illustrations. New York: Macmillan Company, 1926.

Complete presentation of modern knowledge, based on literature and experience.

Diagnosi e Terapia Clinica degli Avvelenamenti. Guida per medici e studenti. Por Dott. Guisto Coronedi, Professore di Farmacologia nella R. Universita. Cloth. Pp. 310, with illustrations. Florence: G. Barbèra, 1926.

Students' manual of little general value.

Die Persönlichkeitsanalyse. Eine vorbereitende Methode für jede Psychotherapie der Neurosen. Von Dr. Ernst Jolowicz, Nervenarzt in Leipzig. Paper. Price, 2.10 marks. Pp. 83. Leipsic: Georg Thieme, 1926.

System of study for psychotherapists.

Hygiene of Sex. By Max von Gruber. Cloth. Price, $1.50. Pp. 169, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

Sound presentation, plain spoken, but in language a little technical for those under high school intelligence.

Le rêve et la psychanalyse. Par le Dr. R. Laforgue. Avec la collaboration des docteurs Allendy, Ed. Pichon, R. de Saussure. Introduction de M. le Dr. Hesnard, Professeur de l'Ecole médecine navale de Bordeaux. Paper. Price, 12 francs. Pp. 248. Paris: A. Maloine, 1926.

Poorly printed on poor paper, and not especially scientific.

Lexikon der Ernährungskunde. Herausgegeben von Dr. E. Mayerhofer, Professor an der Universität, Zagreb, und Dr. C. Pirquet, Professor an der Universität, Wien. Lieferungs 3 und 4. Paper. Pp. 337-892. Vienna: Julius Springer, 1925.

Letters G through M of a German dictionary of nutrition.

Les tumeurs du cerveau. Par le Professeur Viggo Christiansen, Médecin en chef de l'Hôpital royal du Danemark. Avec une préface du Pr. Pierre Marie. Second edition. Paper. Price, 45 francs. Pp. 398, with 107 illustrations. Paris: Masson & Cie, 1925.

Complete study of tumors of the brain and spinal cord.

Fresh Air and Ventilation. By C.-E. A. Winslow, Professor of Public Health, Yale School of Medicine. Cloth. Price, $2. Pp. 182. New York: E. P. Dutton & Co., 1926.

Complete and quite practical consideration of a timely subject, interesting to both physician and public.

Der Hohlfuss. Seine Entstehung und Behandlung. Von Dr. M. Hackenbroch, Privatdozent, Oberarzt der orthopädischen Klinik, Köln. Paper. Price, 6.60 marks. Pp. 83, with 40 illustrations. Berlin: Julius Springer, 1926.

Monograph on common subject suitable to specialists.

Las Glandulas Morfogenas y la Vejez. Discurso leido en la real Academia de Medicina y Cirugia de Barcelona el dia 15 de Noviembre de 1925, en el acto de la recepsión del académico electo. Por Dr. Jesus M. Bellido Golferichs. Discurso de contestación del académico numerario. Por Augusto Pi Suñer. Paper. Pp. 37. Barcelona, 1925.

The Pharmacopoeia of the United States of America. Tenth Decennial Revision (U. S. P. X.). By authority of the United States Pharmacopoeial Convention. Official from January 1, 1926. Cloth. Price, $4. Pp. 626. Philadelphia: J. B. Lippincott Company, 1926.

Bericht der Sondertagung des Vereins der Aerzte für Nervenmassage. Berlin, 14, und 15. April 1925, sowie der ordentlichen Sitzungen des Vereins, vom 8, September und 24, Oktober, 1925. Paper. Price, 3.60 marks. Pp. 104. Leipsic: Georg Thieme, 1926.

Le terrain hérédo-syphilitique. Aperçu de pathologie générale et de clinique infantiles. Par V. Hutinel, Professeur honoraire de clinique médicale infantile. Paper. Price, 30 francs. Pp. 455. Paris: Masson & Cie, 1926.

Registry and Return of Births, Marriages and Deaths, and of Divorce, in the State of Rhode Island for the Year Ending December 31, 1923. Seventy-first report. Providence, 1925.

"Kinésie paradoxale" des parkinsoniens. Contribution à l'étude du mécanisme de la motilité volontaire. Par Dr. J. Jarkowski. Paper. Price, 12 francs. Pp. 78. Paris: Masson & Cie, 1925.

Les angines de poitrine. Par Louis Gallavardin, Médecin des hôpitaux de Lyon. Price, 25 francs. Cloth. Pp. 181. Paris: Masson & Cie, 1925.

Proceedings of the Fortieth Annual Meeting of the Conference of State and Provincial Health Authorities of North America. 1925.

Les cinq sens. Les curiosités de la médecine. Par le Docteur Cabanès. Paper. Pp. 308. Paris: E. Le François, 1926.

French Benevolent Society of New York. Annual Report for the year ending September 30th, 1925.

Miscellany

CLINICAL THERMOMETERS

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Of all the instruments used by the physician, none is more essential than the clinical thermometer.

In view of legislation already passed in several states, and of some agitation for a national law controlling the manufacture and sale of this type of thermometer, it was thought desirable that an exhaustive study be made of clinical thermometers. This investigation is now complete, and the results will be published at an early date.[1] In this instance the work of Waidner and Fischer[2] was of assistance.

The physician must have a thermometer correct within certain limits of accuracy. What these limits are is best determined by the physician himself, and the clinical thermometer manufacturer will try to meet the demand. The physician wants a good thermometer, but he does not want to pay for value that is not received. To require a thermometer manufacturer to carry a stock of half a hundred kinds of thermometers, each marked with the seal of a particular state, is an obvious burden, which must be passed on to the purchaser.

No matter how strict the inspection of the various laboratories, much must be left to the integrity of the manufacturer. It is the unseen thing, the care in manufacture, that makes true value. In the following paragraphs, an attempt is made to explain briefly some of the factors to be considered.

The first material that goes to make up a clinical thermometer is the glass. If it is made of certain grades of glass, and not properly aged before pointing, errors as high as 0.6 degree F. are liable to develop after several months' use. The use of a good quality of glass will reduce this source of error to about 0.1 degree F., and if the thermometer is properly aged it becomes entirely negligible.

The quality of the mercury with which the thermometer is filled is of prime importance. An average human hair is twenty times as large as some of the capillary used, and any impurity in the mercury detracts from the reliability of the instrument.

The device that causes the clinical thermometer to register the highest temperature to which it has been exposed is called the contraction. It consists essentially of a constriction in the tube, which allows the mercury to pass upward when forced by the mercury below, but prevents it flowing back without the application of some force. The formation of the contraction requires great skill on the part of the workman. Unfortunately, he is unable to make each just alike.

Some contractions allow the mercury to flow upward in a continuous stream, while in others it goes up in a series of jumps. The first type is liable to be a retreater; that is, it allows the mercury to run back. In fact, there is reason to believe that every thermometer with this kind of contraction will, if cooled slowly enough, retreat. It should be pointed out, however, that in ordinary practice the thermometer is removed from the patient's mouth, and allowed to cool quickly to room temperature. One laboratory, in testing for "retreaters," cools the thermometer very slowly. This is not a condition that exists in actual use, and, in my opinion, seems unnecessarily severe.

The second type of contraction, that which always allows the mercury to pass through in jumps, has one great advantage—it is never a retreater. But there are also disadvantages. If the jumps are large, the thermometer cannot be depended on for accurate readings. If the amount of mercury per jump corresponded to 0.4 degree F., in the bore, the thermometer might well be in error by that amount, and may fail to repeat by as much as 0.8 degree F. However, if the jumps are small, such thermometers are to be desired. The value 0.4 degree F. is exceptional, being the largest jump I have seen. More often the jumps amount to about 0.1 degree F. As a usual thing, thermometers which shake down easily either have big jumps or are liable to be retreaters. This is not always true, for thermometers have been found which the Bureau of Standards would reject as hard shakers, and which one state laboratory would reject as retreaters.

The space above the mercury in a clinical thermometer is carefully evacuated, but of course it is absolutely impossible to remove all the gas. This gas above the column does no harm, unless its pressure is sufficient to cause an otherwise perfect tube to retreat. Most regulations wisely permit a certain amount of gas above the column. Gas which remains in the contraction is liable to separate the mercury column, and will cause an error equal to the length of air space. In some cases, this air space is so small as to be visible only under a microscope, and does not cause complete separation of the mercury column. The inaccuracies caused by such air space are negligible, and may be disregarded. As most regulations on this subject are poorly worded, some testing laboratories are entirely too severe, while others pay entirely too little attention to this source of error. It is suggested that any tube be rejected in which the air space is sufficient to cause complete separation of the mercury. This is severe enough for all practical purposes, but not an impossible requirement for the manufacturers to meet.

Each clinical thermometer has to be individually "pointed." That is, a small file mark is placed on the tube opposite the top of the mercury when the bulb is placed in a bath of known temperature. Two such marks are placed on each tube, one corresponding to a temperature of 96 F., the other corresponding to 106 F. Different manufacturers use different temperatures for the points, but the method is the same in each case. To maintain proper apparatus requires considerable outlay of capital. Special baths have to be provided, the temperature of which may be accurately controlled, and the water must be constantly agitated by mechanical means. Standard thermometers must be procured and subjected to periodic calibration.

After being pointed, the tubes are waxed and sent to the engraving department. Here an engraving machine is so set that the 96 F. and 106 F. points fall on the file marks previously described. The machine graduates the intervening space into the proper number of equal spaces, and the thermometer is then ready to be etched.

The certification requires more water baths, more standard thermometers and more skilled help. It is here that the thermometer is given its final inspection and unreliable tubes rejected.

In the foregoing, I have not attempted to give the details of manufacture. Points have been discussed which are thought to interest the medical man. An attempt has been made to show that much depends on proper manufacture, and this requires much more capital than most readers imagine. The safest thing for the physician to do is to buy good thermometers, made by manufacturers of recognized standing.

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[1] Noyes: Journal of the Optical Society of America and Review of Scientific Instruments, 1926.

[2] Waidner and Fischer: Bulletin Bureau of Standards 1, No. 2, 1904.

Medicolegal

Practice Act Should Receive Reasonable Construction

Levin v. Board of Medical Examiners of California et al. (Calif.), 239 Pac. R. 410)

The District Court of Appeal of California, first district, division 1, says that the petitioner asked for mandate to compel the board of medical examiners to issue to him a license entitling him to practice medicine and surgery in the state of California. He alleged that he had taken a full course at the Detroit College of Medicine, and on May 24, 1907, the secretary of the college gave him a certificate stating in substance that he had passed his final examinations and would be recommended to the trustees for graduation; that on the 27th he presented his certificate to the board of medical examiners of Michigan; and that on the 30th he received from the college a diploma conferring on him the degree of doctor of medicine. The respondent board contended that he had not received a diploma at the time he presented himself for examination before the Michigan board, and that the act of that board in subsequently admitting him to practice adopted a standard less than that required by the laws of California, which justified a refusal to issue the reciprocity license applied for. The sole question presented here was whether or not the petitioner in legal contemplation was possessed of a diploma from the medical college at the time he was permitted to take his examinations before the Michigan board.

If the act of the board of medical examiners of Michigan permitting him to take the examinations before his diploma could be actually made out and issued to him constituted the maintaining of a standard not equal to that of California, then the petitioners was not entitled to the relief sought. If, on the other hand, the possession by him of the certificate and the subsequent issuance to him of his diploma was to all legal intents and purposes the possession by him of a diploma, then it was conceded that the petitioner was entitled to a license on reciprocity, and it should be issued to him. To state the question was to answer it. The certificate was to all intents and purposes the equivalent of a diploma. It certified that the petitioner had passed his final examinations, and he was therefore entitled as a matter of right to a diploma. Moreover, the diploma was in fact issued to him before he was granted his license. To say that under such circumstances he was not possessed of a diploma entitling him to take his examinations would be to put a narrow construction on the California statute, which requires the filing of a diploma prior to the taking of examinations. The statute should receive a reasonable construction, and the spirit and reason should prevail over the letter. This court is therefore of the opinion that the petitioner was entitled to the relief sought.

While, ordinarily, the action of an officer clothed with a discretion is not reviewable if exercised on matters left to his discretion, yet where the discretion is abused and made to work injustice, it may be controlled by mandamus. In this case this court thinks that the board acted arbitrarily and abused its discretion. Therefore, let the writ issue.

Neurasthenic Condition Due to Injury Compensable

(Rialto Lead & Zinc Co. et al. v. State Industrial Commission et al. (Okla.), 240 Pac. R. 96)

The Supreme Court of Oklahoma holds that, under the workmen's compensation act, an employee who had sustained an injury arising out of and in the course of his employment was entitled to compensation for partial disability where it appeared that at the time the question was being considered he was probably not suffering with physical disability, but had neurasthenia which had its origin in the accidental injury, and was unable to work at his former occupation, but was able to do lighter work for which he received about one-half the wage that he had previously earned. The court says, after noting that it had been stated that it had never passed on the question of whether a neurotic whose trouble has its origin in an accidental injury is entitled to compensation, that it does not hesitate to say that when a mental condition comprehended under the term of "neurasthenia" is shown by competent evidence to exist as a direct result of a physical injury sustained by an employee, arising out of and in the course of his employment, which condition deprives the employee of working in his former occupation, the same would be compensable under the workmen's compensation act of Oklahoma. It is well settled by a long line of English decisions, based on workmen's compensation acts, that, where neurasthenia intervenes after an accident and produces incapacity, to entitle the workman to compensation for an accidental injury the preceding injury must be shown to be the proximate cause of the neurasthenic condition.

In other words, this court holds, as it restates it, that where, as the approximate result of an accidental personal injury sustained by an employee arising out of and in the course of his employment, such employee, after all objective and subjective symptoms of actual physical injury are removed, suffers from a nervous breakdown and a neurasthenic condition ensues attributable to such injury which precludes the employee from resuming his work in his former occupation, such mental condition is an injury arising out of and in the course of his employment and is compensable under the provisions of the workmen's compensation act.

Health Officer and Commissioners Must Act Together

(Eckles v. Board of County Commissioners of Hughes County (Okla.), 239 Pac. R. 567)

The Supreme Court of Oklahoma, in affirming a judgment for the defendant, says that the plaintiff sought to recover on two itemized accounts for services and expenses in treating smallpox in 1921 and 1922, and that the question involved in this appeal was the legality of claims and expenditures for him as county superintendent of public health beyond the amount of the estimate approved by the county excise board. Under section 8680 of the compiled statutes of 1921 of the state, the compensation to be allowed the county superintendent of public health is fixed and limited to $5 a day for the time actually and necessarily served, and not exceeding the sum total of a certain amount yearly according to the population of the county, and any other compensation allowed is by contract for actual and necessary expenses, in the discharge of his duties, in carrying out the "provisions, rules and regulations" promulgated by such health officer and the board of county commissioners for the suppression of dangerous epidemics in the county. The compensation for expenses provided in the last paragraph of the section for the suppression of dangerous epidemics is not in the nature of an involuntary indebtedness but is voluntary, and grows out of a contractual relation, and any claim not contracted under this provision is illegal and void. Whatever the emergency on account of a dangerous epidemic, the county superintendent of public health and the board of county commissioners are required to act together in formulating such "provisions, rules and regulations," as may be necessary to prevent the spread of the epidemic, and they are given full power to compel submission to their rules and regulations to stamp out or prevent the spread of the epidemic.

The evidence in this case did not show any concert of action on the part of the health official and the county commissioners. Whatever rules and regulations were made were made by the superintendent of health, and the county commissioners passed no resolution and took no action in the matter. But section 8680, in providing for the payment of actual and necessary expenses, requires that they must be such as were contracted for in the discharge of the health official's duties in the emergency. The evidence must show a contractual relation between the parties, there must be rules and regulations agreed on in fixing the duties of the health officer, and there must be a promise to pay for services and expenses incurred. The evidence in this case failed to show any compliance with the statute in these respects. Furthermore, this court cannot see anything mandatory in these provisions of the statute even in the case of an emergency. It is discretionary with the county commissioners as to whether they take any action or not, even if a dangerous epidemic does exist. If they do act, and, with the superintendent of health, make rules and regulations to meet the danger, even then they cannot contract for expenses beyond the resources of the county and the constitutional limitations of indebtedness. If within such limits, the contract will be legal; otherwise, illegal and void. Wherefore the court is of the opinion that the judgment rendered for the defendant was correct and should be affirmed.

Malpractice Where Radium Copsule Was Swallowed

(Jacobs v. Grigsby et al. (Wis.), 205 N. W. R. 394)

The Supreme Court of Wisconsin, in affirming a judgment for $3,000 damages in favor of the plaintiff, says that one of the defendant copartners used a silver capsule containing radium in treating the plaintiff for a nasal trouble. He first treated the left nostril, but while he was packing the capsule in the right nostril the capsule slipped away from him, dropped into the plaintiff's mouth, and was swallowed. In order to prevent serious injury to the plaintiff by reason of the capsule being swallowed, an operation was immediately performed, and it was for the pain and suffering and damages resulting from that operation that the plaintiff brought this action for malpractice, contending that the physician was negligent because he used too short a string attached to the capsule. It was undisputed that when he treated the left nostril the capsule had attached to it a string 5 or 6 inches in length, but the plaintiff contended that in cutting off the gauze which was used in the packing the physician also cut off the string to a length not exceeding a couple of inches. On behalf of the defendant, it was contended that a string of the ordinary, usual length of 6 or 6½ inches was used. The jury found by a special verdict, the form of which was agreed on by both parties: (1) In giving the plaintiff's right nostril the treatment in question the defendant failed to have attached to the radium capsule a string of the usual and customary length usually employed by physicians in good standing of the same school of medicine and surgery in that city and similar localities, under like or similar circumstances, having due regard to the advanced state of medical and surgical science at the time; (2) such failure to use a string of the usual and customary length attached to the capsule was the proximate cause of the capsule slipping down the plaintiff's throat; (3) the defendant ought, in the exercise of that degree of care and skill usually exercised by physicians in good standing of the same school of medicine and surgery in that city and similar localities, under like or similar circumstances, having regard to the advanced state of medical and surgical science at the time, reasonably to have anticipated that an injury to the plaintiff would be the natural and probable consequence of the failure to use a string of the customary and usual length; and (4) damages in the sum of $3,000.

The questions that controlled this case were: (1) What was the length of the string used by the physician? (2) What is the customary length of string used for the purposes for which this was used? and (3) Could the jury reasonably find that a string not to exceed 2 inches in length was the proximate cause of the injury to the plaintiff? On the question of the length of the string, the testimony was in sharp conflict. The physician who performed the operation to remove the capsule from the plaintiff's stomach testified that the string was 6½ inches in length; that he measured it after removing it. The defendant physician testified that the string was 6¼ inches in length, and that he also measured it after its removal from the stomach. The plaintiff testified that the string was lying on the table after the treatment of the left nostril and that it was only about 1½ inches in length. Two nurses testified that the string was not more than 2 inches long. On this state of the testimony it could not be said that the verdict was without evidence to support it. The length of the string was peculiarly a question for the jury to decide on the conflicting testimony. It was somewhat significant that the string was not produced on the trial. Why it was not the court was not advised.

The testimony of the physician that he used a string about 6½ inches long, and that he followed the usual and customary practice in all that he did, sufficiently established the fact by expert testimony that a string for such a purpose is customarily of a length of about 6½ inches. The contention that the jury could not say that the shortness of the string was the proximate cause of the capsule falling into the plaintiff's mouth and being swallowed was not tenable. The physician testified that he knew the capsule might pass down the nasal passage into the mouth. Knowing that, it seems to the court he should have known that a string only 2 inches long was too short safely to prevent the capsule from so doing. At least the court cannot say that twelve men might not reasonably come to such a conclusion. Nor can the court disturb the verdict as excessive, when, after more than two years, the plaintiff was still suffering more or less pain, probably due to adhesions.

Blastomycosis Resulting Naturally and Unavoidably

(United States Casualty Co. v. Smith (Ga.), 129 S. E. R. 880)

The Court of Appeals of Georgia, Division No. 2, in affirming a judgment which denied the insurance carrier's appeal from an award of compensation under the workmen's compensation act, holds that the industrial commission was authorized to find that the employee was suffering from the disease of blastomycosis, and that it resulted naturally and unavoidably from his original injury. He had had, from a scald, a blister about the size of a nickel form on the back of his neck, which blister was burst and became a sore, a month or so after which the wound was exposed to ammonia gas which enveloped him. He soon began to experience pains in one of his arms; after about two months was never able to work again; at the end of about a year had to have an arm amputated; and four months afterward was informed by a specialist in skin diseases that he was suffering from blastomycosis, a disease caused by a vegetable germ or fungus.

There are decisions which might be construed as holding that the contention of the employee in a case of this sort would not be established in the absence of evidence to show when, where or under what circumstances the germ made its entrance into his person. But, after mature deliberation, this court is unwilling to apply such a rule in this case. The statute, in providing that the disease must have resulted naturally and unavoidably from the accident, does not, this court takes it, abolish the well established proximate cause doctrine, but does define it, the court thinks, so far as it relates to diseases, in compensation cases. The definition, however, does not appreciably change the general rule, and might have been inserted for the purpose of excluding diseases developing in the course of the employment, but not caused by some antecedent injury.

The word "naturally," as here employed, means according to the laws of nature or the usual course of things. It is unimportant that it is unusual for persons to be afflicted with the disease in question, provided it seized the particular person in the way usual to the disease. According to the evidence as to the character, habits and effect of the blastomycosis germ, the employee's contracting of the disease was in accordance with its nature, and it therefore resulted naturally from the accident. Did it also result "unavoidably"? This word is to be given a reasonable interpretation, according to its general acceptation, having in mind the general requirements of the law as to the care and diligence which a person ordinarily must exercise for his own safety and protection. It is not employed in an absolute sense, and does not imply that the disease must follow certainly. A thing is generally considered unavoidable when common prudence and foresight cannot prevent it. The evidence showed that the employee consulted physicians promptly, and was constantly under treatment, and warranted the conclusion that he made every reasonable endeavor to maintain his health from the first appearance of illness. Anyway there would be no presumption of voluntary exposure or lack of care on the part of the employee. The evidence was easily sufficient to establish that he could not have avoided the disease by ordinary care. It was immaterial that neither the employer nor the employee could have known that the particular disease might result from an accident, since, in the light of modern science and common experience, it could have been reasonably anticipated that a disease of some character would probably result therefrom. The conclusion is that the award in the instant case was authorized.

City Not Liable for Gross Negligence as to Hospital

(Young v. City of Worcester (Mass.), 149 N. E. R. 204)

The Supreme Judicial Court of Massachusetts, in affirming an order sustaining a demurrer to the plaintiff's declaration, says that the plaintiff, as administrator, sought to recover for the death of his intestate, which was alleged to have been caused by a defective elevator in the Worcester City Hospital. The plaintiff very properly conceded that he had no right to recover in damages for the death of his intestate caused by the negligence of the municipality's agents or servants. The maintenance of the hospital by the defendant, while permissive, is a matter of public service conducted exclusively and purely for the general and common good. In some cases the statutes enjoin such service on cities and towns, and in others permit it. When such service has been entered on, there is no good reason why a liability to private action should be imposed when a town or city voluntarily enters on such a beneficial work, and withheld when it performs the service under the requirements of an imperative law. The plaintiff, however, contended that there is a distinction between gross negligence and negligence, and that the admission of gross negligence by the demurrer removed this case from the field covered by the decisions. But the principle which exempts municipalities from responsibility for injuries received in consequence of a negligent or defective performance of a public service is of equal pertinency when the negligent act is greater in culpability than is ordinarily imputed to negligent conduct.

Roentgenograms May Be Used to Refresh Recollection

(Hinkelman v. Pasteelnick (N. J.), 130 Atl. R. 441)

The Supreme Court of New Jersey, in affirming a judgment in favor of the plaintiff for damages for personal injuries, says that the only ground on which a reversal was sought was an alleged error on the part of the trial court in permitting a physician, who was the plaintiff's physician and attended her in the hospital, to look at a roentgenogram, which he was unable to say was a photograph of the plaintiff's leg after her injury, and to testify that an inspection of the plate refreshed his recollection as to the condition of the bones of the plaintiff's foot. The testimony was objected to on the ground that it was improper to permit the physician to refresh his recollection by the use of a photograph that he could not swear was taken of the plaintiff's foot or leg. But the supreme court thinks that the objection was without merit. Anything that will refresh the recollection of a witness may be looked at by him for that purpose, although in itself it is not evidential.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Dallas, April 19-23. Dr. Olin West, 535 N. Dearborn Street, Chicago, Secretary.

Alabama, Medical Association of the State of, Mobile, April 27-30. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Assistant Secretary.

American Association for the Study of Allergy, Dallas, April 20. Dr. A. H. Rowe, 242 Moss Avenue, Oakland, Calif., Secretary.

American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 10-12. Dr. H. G. Bugbee, 40 E. 41st Street, New York, Secretary.

American Association of Industrial Physicians and Surgeons, Philadelphia, May 24-26. Dr. F. L. Rector, 22 East Ontario Street, Chicago, Secretary.

American Bronchoscopic Society, Montreal, Canada, May 29. Dr. Henry B. Orton, 671 Broad Street, Newark, N. J., Secretary.

American Child Health Association, Atlantic City, May 17-22. Dr. S. J. Crumbine, 370 7th Ave., New York City, Secretary.

American Dermatological Association, Niagara Falls, Canada, May 27-29. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary.

American Gastro-Enterological Association, Atlantic City, May 3-4. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.

American Gynecological Society, Stockbridge, Mass., May 20-22. Dr. A. H. Curtis, 104 S. Michigan Ave., Chicago, Secretary.

American Laryngological Association, Montreal, Canada, June 3-5. Dr. George M. Coates, 1811 Spruce Street, Philadelphia, Secretary.

American Laryngological, Rhinological, and Otological Society, Montreal, Canada, May 31-June 2. Dr. Robert L. Loughran, 145 West 58th Street, New York, Secretary.

American Neurological Association, Atlantic City, June 1-3. Dr. Henry A. Riley, 870 Madison Avenue, New York, Secretary.

American Orthopedic Association, Atlanta, April 26-28. Dr. De Forest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.

American Otological Society, Montreal, Canada, May 31-June 3. Dr. Harold Walker, 390 Commonwealth Avenue, Boston, Secretary.

American Pediatric Society, Niagara Falls, Canada, May 31-June 2. Dr. Howard Childs Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Psychiatric Association, New York City, June 8-11. Dr. Earl D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, New York City, June 11. Dr. Sanger Brown II, 173 East 70th Street, New York City, Secretary.

American Roentgen Ray Society, Detroit, May 18-22. Dr. C. L. Martin, Baylor Hospital, Dallas, Texas, Secretary.

American Society of Clinical Investigation, Atlantic City, May 3. Dr. J. H. Austin, University of Pennsylvania, Philadelphia, Secretary.

American Surgical Association, Detroit, May 24-26. Dr. R. B. Greenough, 8 Marlborough Street, Boston, Secretary.

American Therapeutic Society, Philadelphia, June 10-12. Dr. W. J. Mallory, 1720 Connecticut Ave., N. W., Washington, D. C., Secretary.

American Urological Association, Boston, May 17-19. Dr. H. G. Hamer, 723 Hume-Mansur Building, Indianapolis, Ind., Secretary.

Arizona Medical Association, Globe, April 25-27. Dr. D. F. Harbridge, 407 Goodrich Building, Phoenix, Secretary.

Arkansas Medical Society, Hot Springs, May 18-20. Dr. W. R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Association for the Study of Internal Secretions, Dallas, April 20. Dr. F. M. Pottenger, Title Insurance Building, Los Angeles, Secretary.

Association of American Physicians, Atlantic City, May 4-5. Dr. F. W. Peabody, Boston City Hospital, Boston, Secretary.

California Medical Association, Oakland, April 26-May 1. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.

Conference of State and Provincial Health Authorities, Atlantic City, N. J., May 21-22. Dr. Richard M. Olin, State Commissioner of Health, Lansing, Mich., Secretary.

Connecticut State Medical Society, New Haven, May 19-20. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Florida Medical Association, Gainesville, May 3-5. Dr. Shaler Richardson, 111 W. Adams Street, Jacksonville, Secretary.

Georgia, Medical Association of, Albany, May 12-15. Dr. A. H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.

Hawaii Territorial Medical Association, Honolulu, April 25-28. Dr. F. J. Pinkerton, 46 Young Building, Honolulu, Secretary.

Illinois State Medical Society, Champaign, May 18-20. Dr. H. M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, May 12-14. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Kansas City, May 4-6. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.

Maine Medical Association, Poland Springs, June 10-12. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 27-29. Dr. J. A. Chatard, 1211 Cathedral Street, Baltimore, Secretary.

Massachusetts Medical Society, Springfield, June 8-9. Dr. W. L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, Ann Arbor, Mich., June 8-9. Miss Harriet Wilson, 535 North Dearborn Street, Chicago, Secretary.

Medical Women's National Association, Dallas, April 18-19. Dr. Lena K. Sadler, 533 Diversey Parkway, Chicago, Secretary.

Minnesota State Medical Association, St. Paul, May 17-19. Dr. E. A. Meyerding, 11 W. Summit Avenue, St. Paul, Secretary.

Mississippi State Medical Association, Jackson, May 11-13. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.

Missouri State Medical Association, St. Louis, May 17-20. Dr. E. J. Goodwin, 901 Missouri Building, St. Louis, Secretary.

National Association for the Study of Epilepsy, New York City, June 7-8. Dr. A. L. Shaw, 108B The Albiston, Utica, N. Y., Secretary.

Nebraska State Medical Association, Omaha, May 11-13. Dr. R. B. Adams, McKinley Building, Lincoln, Secretary.

New Hampshire Medical Society, Concord, May 25-26. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Mexico Medical Society, Albuquerque, May 19-21. Dr. C. M. Yater, 310 N. Richardson Avenue, Roswell, Secretary.

North Dakota State Medical Association, Minot, May 25-26. Dr. A. J. McCannell, Minot, Secretary.

Ohio State Medical Association, Toledo, May 11-13. Mr. Don K. Martin, 131 E. State Street, Columbus, Executive Secretary.

Rhode Island Medical Society, Providence, June 3. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

South Dakota State Medical Association, Aberdeen, May 19-20. Dr. John F. D. Cook, Langford, Secretary.

Tennessee State Medical Association, Memphis, May 11-13. Dr. J. F. Gallagher, Jackson Building, Nashville, Secretary.

Texas, State Medical Association of, Houston, May 24-27. Dr. Holman Taylor, 207½ West 11th Street, Fort Worth, Secretary.

Utah State Medical Association, Salt Lake City, May 6-8. Dr. F. B. Steele, Boston Building, Salt Lake City, Secretary.

West Virginia State Medical Association, Morgantown, May 25-27. Mr. S. O. Neale, 211 Smallridge Building, Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

31: 151-313 (Feb.) 1926

*Hookworm Infestation and Physical Condition of School Children. W. G. Smillie and D. L. Augustine, New York.—p. 151.
*Fasting as Cause of Convulsions. H. Josephs, Baltimore.—p. 169.
*Intracutaneous Tests with Human and Bovine Tuberculin. H. F. Downing and H. L. Higgins, Cincinnati.—p. 178.
*Acute Pyogenic Arthritis of Hip Joint in Infancy and in Childhood. M. P. Cooperman, Philadelphia.—p. 183.
*Coarctation of Aorta: Case. J. W. Bruce and R. Ball, Louisville, Ky. —p. 196.
Chylomicron (Free Fat) Content of Blood in Infants. L. C. Schroeder and E. Holt, New York.—p. 201.
*Index of Refraction of Breast Milk Serum. C. I. Solomon and A. T. Shohl, New Haven, Conn.—p. 218.
*Basal Metabolism After Pneumonia. B. Shick, P. Cohen and I. Beck, New York.—p. 228.
*Trypsin Secretion of Infants. T. Lukacs, Szeged, Hungary.—p. 235.
*Hexylresorcinol in Treatment of Pyelitis of Infancy and of Childhood. W. J. Scott and V. Leonard, Baltimore.—p. 241.
*Polyarthritis in Infant Six Days Old. L. F. Richdorf and W. H. Griffith, Minneapolis.—p. 250.
*Congenitally Acquired Pyelitis. C. E. Conrad, Harrisonburg, Va. p. 254.

Hookworm Infestation of School Children.—Nearly 2,000 children were examined by Smillie and Augustine for hookworm and to determine what effect, if any, its presence had on growth. It was found that heavy hookworm infestation (500 *Necator americanus* or over) causes marked retardation in the normal growth in height and weight and lowers the hemoglobin of children of school age. Light hookworm infestation (from 1 to 100 *Necator americanus*) produces no measurable retardation in the normal development of children of school age, nor is the hemoglobin of this group reduced to a measurable degree. An infestation of twenty-five *Necator americanus* may be considered as the economic base line of cure. An infestation of twenty-five worms or less represents a carrier state, and is not true hookworm disease. Sanitation and education should be relied on to control the hookworm carrier. Hookworm treatment should be used only in cases of hookworm disease.

Fasting as Cause of Convulsions.—Attention is called by Joseph to short fasting periods as a cause of convulsions in children, especially that type of convulsion which is seen at the onset of acute infections. Studies carried out on several of the children who came under observation indicate that these convulsions are probably of hypoglycemic origin. Attention is called to the close association of this type of convulsion with attacks of recurrent vomiting. Ten cases are reported.

Intracutaneous Tuberculin Tests.—Experience in making routine skin tests with human and bovine tuberculin has convinced Downing and Higgins that both bovine and human tuberculin should be employed in routine tuberculin tests, not only to determine the diagnosis of the type of tubercle bacilli present but also to increase the value of the test by detecting cases which would otherwise be missed. In their series, the missed cases would have amounted to 15 per cent of the total tuberculous patients. Evidence from two cases tends to confirm earlier reports that in the first stages of tuberculosis the patient will react to only one type of tuberculin, presumably that of the infecting type, while later the patient reacts to other types (group reaction).

Infectious Arthritis of Hip Joint in Children.—Cooperman summarizes his observations as follows: acute gonococcus infections of the hip joint in the new-born are characterized clinically by early spontaneous dislocations. Immobilization in plaster casts and diathermy are of definite curative value in preventing destruction and relieving the inflammatory reactions. Reduction of the dislocation should be attempted during the acute stage. Vaccines have proved valueless. Streptococcus and staphylococcus infections of the hip joint in older children are characterized by severe constitutional and local reactions. Destruction of the joint is induced by unallayed muscle spasm and extension of the disease through contracting pressures. Incision and drainage and extension and fixation relieve symptoms and prevent progressive destruction of the joint. Intravenous therapy has proved of little value. Children who have recovered from the acute infections should be under observation for at least one year. Deformities frequently have to be corrected or pathologic dislocations reduced.

Coarctation of Aorta.—A case of coarctation of the aorta of the congenital or infantile type is reported by Bruce and Ball. The clinical manifestations were similar to those of intracranial injury caused by birth trauma—intermittent periods of cyanosis, irregular respirations and convulsions.

Index of Refraction of Breast Milk Serum.—A method of determination of the index of refraction of breast milk serum is proposed by Solomon and Shohl by which the addition to breast milk of 11 per cent of water and 20 per cent, or more, of cows' milk may be detected simply, rapidly and accurately.

Basal Metabolism After Pneumonia.—A postinfectious metabolic study was made by Shick, Cohen and Beck in twenty-one cases of pneumonia. There was not infrequently a low basal metabolism which rose to normal in from one to three weeks, occasionally longer, and which was associated with a slow pulse rate. Less frequently, there was a high postinfectious basal metabolism which declined to normal in from two to three weeks.

Trypsin Secretion and Rickets.—Lukacs' work thus far indicates that there seems to be a possibility of a pathogenic relationship between the increased trypsin secretion and some symptoms of rickets.

Hexylresorcinol in Pyelitis.—On the basis of clinical experience with hexylresorcinol in the treatment of pyelitis in children, Scott and Leonard believe that it is at times a distinct addition to therapeutic measures. The striking improvement in the general health and nutrition, frequently observed in children taking hexylresorcinol, does not seem to be entirely dependent on the control of the urinary infection, for it may occur long before there is any noticeable improvement in the local condition and is sometimes the most impressive effect of the treatment. To obtain the best results, treatment should be persistent; the fluid intake should not be increased, and soda should be avoided during the administration of the drug.

Polyarthritis of Intra-Uterine Origin in Infant.—In the case reported by Richdorf and Griffith, the sequence of the appearance of the disease, first in the mother and then in the child, the exclusion of chronic and secondary arthritis by clinical and laboratory methods, the presence of a similar *Streptococcus viridans* in the mother's blood and baby's joint fluid, and the absence of local signs indicating a portal of entry after contact or other infection, point toward an intra-uterine infection of the infant through the placenta by the organisms circulating in the mother's blood.

Congenital Acquired Pyelitis.—Three cases, all occurring in girls, are reported by Conrad. In two of the infants, the mothers had had pyelitis during pregnancy. In one of these two cases the mother had had such severe pyelitis that it was necessary to have her in the hospital for treatment during the fifth month of pregnancy. Two of the infants had convulsions, which were quite severe in one. Two of the infants recovered, and the third was much improved when last seen.

American Journal of Ophthalmology, Chicago

9: 81-156 (Feb.) 1926

Epithelial Dystrophy of Cornea: Relation to Endothelial Dystrophy. S. R. Gifford, Omaha.—p. 81.
Central Retinal Hemorrhage, Synchronous with Onset of Menstrual Period. E. N. Neulen, Astoria, Ore.—p. 85.
Mechanism of Accommodation. P. Obarrio, San Francisco.—p. 90.
Studies in Perimetry. I. Diagnostic Scale for Form Field. C. E. Ferree and G. Rand, Bryn Mawr, Pa., and M. M. Monroe, Philadelphia. —p. 95.

Bilateral Glioma of Retina. R. M. Rogers, Brooklyn, N. Y.—p. 105.
Retinoscopy with Cylinders. C. S. O'Brien, Iowa City.—p. 107.
Milk Injections in Ophthalmic Cases. I. E. Gaston, Portland, Ore. —p. 111.
Osteoma of Orbit. J. E. Lebensohn, Chicago.—p. 115.
Retinal Vessel Scotoma. J. N. Evans, Brooklyn, N. Y.—p. 118.
Oil Injections in Treatment of Lacrimal Duct Stenosis. G. M. Bean. —p. 119.
Red Free Light and Fluorescein in Examination of Cornea and Conjunctiva. W. M. Bane, Denver.—p. 120.
Neoplasm of Pituitary Body. W. F. Bonner, Wilmington, Del.—p. 120.

Annals of Clinical Medicine, Baltimore

4: 525-611 (Jan.) 1926

Health and Life: Broadening Conceptions of Tasks of Practicing Physicians. L. F. Barker, Baltimore.—p. 525.
*Heart Disease and Life. S. R. Roberts, Atlanta, Ga.—p. 535.
Pellagra and Beriberi. F. J. Farnell and P. J. Yacovlev, Providence, R. I.—p. 541.
*Typical Pellagra Syndrome Developing in Patient with Chronic Ulcerative Colitis While Under Hospital Treatment. J. M. Barnes, Washington, D. C.—p. 552.
Diseases of Gallbladder. E. Kaplan, Newcastle, Pa.—p. 565.
*Asthma and Eczema Controlled Through Nasal (Sphenopalatine) Ganglion. L. K. Gundrum, Los Angeles.—p. 572.
*Bacteriologic Study of Upper Respiratory Tract in Asthmatics: Selective Pathogenicity. M. Solis-Cohen and A. I. Rubenstone, Philadelphia. —p. 574.
Treatment of Rhus Dermatitis with Poison Ivy Extract. R. O. Clark, Pearl River, N. Y.—p. 591.
*Two Cases of Sudden Death Associated with Fourth Ventricle Tumor. J. W. Shuman, Los Angeles.—p. 595.

Heart Disease and Life.—Roberts believes that a commission to study the rheumatic group of diseases over a period of years is necessary. This will include a field force to study weather, housing, climate, heredity, environment, exposure, air and clothing; and a laboratory study to determine the bacteriology and the conditions of infection. The education of the public on the frequency of heart disease and how the individual ought to live is an important factor. The public is entitled to a public meeting by every medical society. The physician has no right, as a medical leader in his community, to live contrary to the dictates of preventive medicine. Example is greater than precept, and self-denial than self-indulgence. There should be an annual physical examination, not only of the layman, but of the physician himself. The examination should be done at home by a clinician with the clinician's point of view and experience. The local medical society might well have itself examined annually as a form of both wisdom and example.

Pellagra and Chronic Ulcerative Colitis.—Barnes' case yielded nothing new as far as any specific pathologic condition is concerned. The general pathologic findings were identical with those described in other well-studied cases of typical pellagra, but the marked degenerative changes in the central nervous system emphasized by some writers were not present. No evidence of a polyneuritis was found. From the standpoint of etiology, if any one pathologic condition found in this case might be regarded as having some etiologic significance, it would seem to be a severe colitis, which was the earliest, the most constant and most important clinical symptom and, aside from the cutaneous lesions, the most striking pathologic finding. The histologic picture was identical with that of a severe chronic bacillary dysentery, but bacteriologic studies were negative as to the presence of dysentery bacilli.

Nasal Ganglion Injection Controls Asthma.—Gundrum's case was one of so-called inherited or familial asthma. The duration of the asthma was twenty years and of the eczema ten years. The asthma and eczema were controlled by cocainization of the sphenopalatine ganglions but returned as soon as the effects wore off. Injection with 5 per cent phenol in 95 per cent alcohol has up to the present time given complete relief.

Specific Antigen Injection in Asthma.—Twenty-one patients suffering from asthma had pathogen-selective cultures made by Solis-Cohen and Rubenstone from various portions of the upper respiratory tract. Thirteen different micro-organisms grew. *Micrococcus catarrhalis* was present in every case but one. Only one third of the organisms that grew on Löffler's medium also grew in the patient's whole blood. It would seem, therefore, that these asthma patients harbored twice as many organisms that were nonpathogenic for them as organisms that were pathogenic. Such bacterial infection can be overcome only by the restoration of sufficient bactericidal or bacteriostatic power to the patient, which in the markedly lowered resistance of most asthmatic patients can best be aided by the proper injection of the specific antigen required, after recognizable diseased tissue has been removed. The specific antigen may be lacking in vaccine as ordinarily prepared, as the organisms predominating on ordinary culture mediums may be nonpathogenic for the patient, while in such culture the etiologic organism may fail to grow or may be present in comparatively small numbers. The pathogen-selective method of culture picks out the organisms that are pathogenic for the patient and exaggerates their growth, while inhibiting the growth of or destroying organisms that are nonpathogenic for him. Specific vaccine is of maximum efficiency when made chiefly from those organisms which on pathogen-selective culture grow well in the patient's whole, coagulable blood. To be administered properly, the dosage of vaccine should be regulated according to the general, focal and local reactions produced.

Ventricular Tumor Causes Sudden Death.—Shuman has seen two cases of tumor of the fourth ventricle, both in women, aged 29 and 30, respectively, who died suddenly, in the early morning, the only pathologic change of importance shown at necropsy being the ventricular tumor. In both cases symptomatic relief had been obtained by the injection of one-fourth grain (0.016 Gm.) of morphine sulphate some hours previously. One of these tumors was a cyst, the other an ependymal blastoma.

Annals of Surgery, Philadelphia

83: 161-320 (Feb.) 1926

*Cancer of Heart, Secondary to Cancer of Breast by Direct Lymphatic Extension. R. Kapsinow, New Haven, Conn.—p. 161.
*Development of Carcinoma in Scar Tissue Following Burns. F. M. Johnson, Atlanta, Ga.—p. 165.
*Tuberculosis of Breast. J. W. Hinton, New York, and T. C. Lawson, Berkeley, Calif.—p. 170.
*Tuberculosis of Mammary Gland. A. M. Shipley and H. R. Spencer, Baltimore.—p. 175.
Diagnosis and Treatment of Fractures of Skull as Developed in Cincinnati General Hospital. B. N. Carter, Cincinnati.—p. 182.
Partial Neurectomy of Sensory Root of Gasserian Ganglion in Trifacial Neuralgia with Preservation of Corneal Sensation. A. S. Taylor, Peking, China.—p. 196.
*Persistent and Recurrent Hyperthyroidism. F. H. Lahey and H. M. Clute, Boston.—p. 199.
*Osteomyelitis of Sternum. A. O. Wilensky and S. S. Samuels, New York.—p. 206.
Surgery of Gastric and Duodenal Ulcers. G. de Takats, Chicago. —p. 217.
Study of Six Thousand Seven Hundred and Ninety-Seven Surgically Removed Appendixes. S. Warren and A. S. Warren, Boston.—p. 222.
Pyelography in Renal Diagnosis. L. Herman, Philadelphia.—p. 227.
*Etiology of Postoperative Pulmonary Abscess. E. Holman, San Francisco.—p. 240.
Treatment of Traumatic Rupture of Kidney. M. B. Wesson, San Francisco.—p. 246.
Treatment of Obstructions of Upper Ureter and Early Hydronephrosis. C. H. Peck, New York.—p. 260.
Fractures of Head and Neck of Radius. C. W. Cutler, New York. —p. 267.
Late Results in Treatment of Simple Fracture of Femur in Adults. R. V. Grace, New York.—p. 279.

Secondary Carcinoma of Heart.—An unusual case of carcinoma of the heart, secondary to that of the breast, is reported by Kapsinow. The distribution indicates that the growth was a retrograde invasion by direct continuity along the lymphatic channels.

Ulcers and Cancers in Scar Tissue.—Four cases of ulceration occurring in the cicatrix of extensive burns are recorded by Johnson. Of these, three were proved microscopically to be squamous-cell carcinoma, while the fourth was benign in character but clinically precancerous.

Tuberculosis of Breast.—Hinton and Lawson analyze eight cases. The chief point of interest in the history of this condition is pain which was present in five of the eight patients. On physical examination, the five complained of tenderness over the enlargement, which is not usually encountered in cases of malignancy. The axillary lymph glands were found enlarged in three cases. There was little difference in the sides involved, the right side being affected in five cases and the left in three. The nipple was retracted in one case. The authors did not find the typical "pig skin" appearance over the tumor, which is frequently described. The Wassermann reaction was negative in all cases. A history of trauma was obtained in one case. Physical examination of the chest revealed râles in two cases. Evidence of a previous cervical adenitis was found in two cases. The family history of tuberculosis was negative except in one case. One patient gave a history of having had a dry cough for approximately eight years, without expectoration.

Tuberculosis of Mammary Gland.—Ten cases of mammary tuberculosis, observed in a series of 671 breast cases are reported by Shipley and Spencer. In one case there was a family history of tuberculosis. In one case there was a history of trauma. In five cases there was clinical evidence of preexisting tuberculosis elsewhere. There was an involvement of the cervical lymph nodes in one case and of the axillary nodes in six cases. The lesion was always unilateral, with involvement of the right mammary gland in seven cases, and of the left in three. The lesions were single in five cases, multiple in two, and diffuse in three. The portion of the breast involved was very irregular. There was skin ulceration in three cases, retraction of the nipple in two cases, discharge from the nipple in one, and sinus formation in one. The preoperative diagnosis was tuberculosis in four cases, chronic mastitis in one, and carcinoma in five. There were no deaths in the series.

Persistent and Recurrent Hyperthyroidism.—Following subtotal thyroidectomy, persistence of symptoms of hyperthyroidism, together with persistence of a basal metabolic rate above normal, according to Lahey and Clute, indicates that there still remains a segment of hyperfunctioning gland capable of producing hyperthyroidism. Removal of a very large proportion of this segment by reoperation will, in a majority of instances, bring about a cure. The administration of compound solution of potassium iodide in these cases, even over a period of months, has failed to produce a single cure. The essential factor in the reoperation of these cases is the separation and retraction of the internal jugular vein and the common carotid artery from the thyroid remnant. With this done, any amount of thyroid tissue desired may be removed from the thyroid remnant. Forty-eight patients were seen by the authors.

Osteomyelitis of Sternum.—Wilensky and Samuels report four cases and give a résumé of twenty cases already on record. Among eleven cases, the mortality was 27 per cent.

Etiology of Postoperative Pulmonary Abscess.—Experimental and clinical observations lead Holman to conclude that postoperative pulmonary suppuration probably has its origin less often in the aspiration of blood and mucus than in the setting free of a septic embolus into the blood serum.

Archives of Neurology and Psychiatry, Chicago

15: 151-280 (Feb.) 1926

Oedipus Complex: Its Rôle and Importance. W. McDougall, Cambridge, Mass.—p. 151.
Behavior Origins from Physiologic Point of View. C. M. Child, Chicago. —p. 173.
Behaviorism. Psychology Based on Reflexes. J. B. Watson, New York. —p. 185.
*Sarcomatosis of Brain. B. M. Fried, Boston.—p. 205.
*Parkinsonian States. G. B. Hassin and P. Bassoe, Chicago.—p. 218.
*Psychoses Occurring During Puerperium. E. A. Strecker, Philadelphia, and F. G. Ebaugh, Denver.—p. 239.
*Psychiatric Value of Kuhlmann Tests. J. S. Plant, Newark, N. J. —p. 253.

Sarcomatosis of Brain.—Fried relates the case of a man, aged 33, who suddenly became ill with symptoms of a brain tumor, which could not be localized. He died two months after the onset of the first symptoms; necropsy showed to the naked eye merely a small tumor nodule, but the microscope revealed the widespread presence of tumor cells throughout the entire cerebrum, cerebellum, pons, medulla oblongata and meninges. The growth proved to be composed of small, round cells which showed numerous mitotic figures, and had a perivascular arrangement. The parenchyma and interstitial tissue of the brain showed extensive secondary degenerative changes. Fried is of the opinion that the tumor originated from the adventitial cells of the Virchow-Robin spaces, in other words, from the mesenchymal element of the brain, and it therefore is regarded as a primary sarcoma of the connective tissue of the brain.

Parkinsonian States.—Four cases are reported by Hassin and Bassoe. One was a case of postencephalitic state in a syphilitic patient; one a similar condition following a head injury in a child; one a case of genuine paralysis agitans and one a parkinsonian state in acute epidemic encephalitis. In all four cases, the clinical picture presented features of parkinsonism. In none was the pyramidal system affected, but the changes more or less diffusely involved the basal ganglia and the substantia nigra. In the third case (paralysis agitans), the changes were degenerative only, while in the others—all cases of postencephalitic parkinsonism—they were both degenerative and inflammatory, although the duration (three years) was practically the same in the first three cases. In the authors' opinion it is, therefore, not proper to look on paralysis agitans as an end-result of encephalitis, nor to consider it an equivalent of a postencephalitic syndrome.

Psychoses Occurring During Pregnancy.—Fifty instances *of psychoses associated with or following childbirth are dis*cussed by Strecker and Ebaugh. The diagnoses were: manic depressive, 18 cases; toxic exhaustive, 17; dementia praecox, 13; general paralysis, 1, and psychoneurosis, 1, thus clearly establishing the fact that any psychosis may follow childbirth. Hence, the term "puerperal psychosis" does not represent a clinical entity and should not be used.

Psychiatric Value of Kuhlmann Test.—A new age level scale of tests devised by Kuhlmann is described. The results from testing fifty-three children indicate that definite emotional disturbances are with large precision detected through using the Kuhlmann and Terman scales, in such a way as to evaluate the "mental control" element in the former scale.

Archives of Physical Therapy and XRay Radium, Omaha

7: 1-64 (Jan.) 1926

Radiograph as Adjunct to Artificial Pneumothorax. R. G. Breuer, Norton, Kan.—p. 1.
Bronchial Gland Tuberculosis. J. B. Hawes and E. Friedman, Boston. —p. 11.
Physiotherapy in Treatment of Industrial Wounds. F. H. Walke, Shreveport, La.—p. 16.
Radium in Cancer of Mouth. C. W. Hanford, Chicago.—p. 25.

Boston Medical and Surgical Journal

194: 329-380 (Feb. 25) 1926

Three Months on Medical Service. D. O'Hara, Waltham, Mass.—p. 337.
Spontaneous Subarachnoid Hemorrhage: Four Cases. W. Richardson, Boston.—p. 340.
Value of History in Tuberculosis. M. H. Joress.—p. 344.
Case of Urethral Calculus in Child. H. A. Chamberlin.—p. 347.

Florida Medical Association Journal, St. Augustine and Jacksonville

12: 176-204 (Jan.) 1926

Rôle of Calcium. C. F. Arroyo, Tampa.—p. 176.
Duval County Hospital. R. H. McGinnis, Jacksonville.—p. 180.
Roentgen-Ray Diagnosis and Bronchoscopic Treatment of Lung Abscess. W. J. Knauer and W. McL. Shaw, Jacksonville.—p. 183.
Accessory Nasal Sinus Disease. L. C. Ingram, Orlando.—p. 187.
Uterus Acollis with Atresia: Case. S. R. Edwards, Miami Beach. —p. 190.
Looking Backward Over Fifty Years of Health Work in Florida. J. Y. Porter.—p. 190.

Journal of Biological Chemistry, Baltimore

66: 343-946 (Dec.) 1925

*State of Serum Calcium in Experimental Hypocalcemia and Hypercalcemia. A. R. Moritz, Cleveland.—p. 343.
*Blood Changes During Digestion with Special Reference to Urea Formation. S. Morgulis, Omaha.—p. 353.
Colorimetric Method for Determination of p_H of Cerebrospinal Fluid. I. McQuarrie and A. T. Shohl, New Haven, Conn.—p. 367.
Colorimetric Determination of Phosphorus. C. H. Fiske and Y. Subbarow, Boston.—p. 375.
Vitamin Studies. XI. Inorganic Blood Phosphorus and Bone Ash in Rats Fed on Normal, Rachitic and Irradiated Rachitic Diets. R. Dutcher, M. Creighton and H. A. Rothrock, State College, Pa.—p. 401.
Determination of Gases in Blood and Other Solutions by Vacuum Extraction and Manometric Measurement. III. Methemoglobin. D. D. Van Slyke, New York.—p. 409.

Studies of Methemoglobin Formation. D. D. Van Slyke and E. Vollmund, New York —p. 415
*Dietary Factors Influencing Calcium Assimilation VI. Antirachitic Properties of Hays as Related to Climatic Conditions: Effect of Irradiation with Ultraviolet Light H. Steenbock, E. B Hart, C. A. Elvehjem and S. W. F Kletzien, Madison, Wis —p 425.
*Fat Soluble Vitamin XXVI. Antirachitic Property of Milk and Its Increase by Direct Irradiation and by Irradiation of Animal. H. Steenbock, E. B. Hart, C. A. Hoppert and A Black, Madison, Wis. —p 441.
*Antirachitic Substances II. Action of *n*-Butyl Nitrite on Activated Cholesterol and Antirachitic Vitamin C E. Bills, Evansville, Ind. —p 451
Studies of Cholesterol. I. Synthesis in Animal Body. F. S. Randles and A Knudson, Albany, N Y.—p. 459
*Destructive Action of Acids, Alkalis and Enzymes on Insulin. H. A. Shonle and J H Waldo, Indianapolis —p 467
Quantitative Estimation of Tyrosine and Histidine in Protein. M. T. Hanke, Chicago —p 475
Histidine and Tyrosine Content of Number of Proteins. M. T. Hanke, Chicago —p 489.
Continuous Dialysis or Extraction Apparatus Which Operates at Reduced Pressure with Constant Volume of Liquid. M. T. Hanke and K K Koessler, Chicago —p 495
Alcohol Soluble Protein Isolated from Polished Rice. W. F. Hoffman, St Paul —p 501
Relation Between Colorimetric Reading and True *pn* of Serum or Plasma. J. H Austin, W. C. Stadie and H. W. Robinson, Philadelphia —p 505
*Retention of Uric Acid During Fasting. W. G. Lennox, Boston. —p 521
*Effect of Vitamin A Deficiency on Character of Nitrogen Metabolism. A F. Morgan and D. F. Osborn, Bekeley, Calif —p 573
*Relation Between Amount of Ultraviolet Light Received by Hens and Amount of Antirachitic Vitamin in Eggs Produced J. S. Hughes, L F. Payne, R W Titus and J M. Moore, Manhattan, Kan —p 595.
Determination of Calcium in Tissues, Feces and Milk. R. C. Corley and W. Denis, New Orleans.—p 601.
*Effect of Excessive Calcium Ingestion on Calcium Content of Tissues with and Without Ultraviolet Irradiation W. Denis and R. C. Corley, New Orleans —p 609.
Chemical Investigations of Corpus Luteum IV. Acetone Soluble Fat. G. F. Cartland and M. C. Hart, Kalamazoo, Mich —p. 619.
Id V. Lipoids of Acetone Extract M. C Hart and F. W. Heyl, *Kalamazoo, Mich —p 639.*
Formation of Lactic Acid by Depancreatized Dogs. C. J. Weber, A. P. Briggs and E A. Doisy, St Louis —p. 653.
Benzoylated Amino Acids in Animal Organism I. Behavior of Hippuric Acid Following Its Oral Administration. W. H. Griffith, St. Louis. —p 671.
Id Hydrolysis of Hippuric Acid in Alimentary Canal of Rabbit. W. H. Griffith and P. B. Cappel, St Louis —p 683.
Fate of Sugar in Animal Body I. Rate of Absorption of Hexoses and Pentoses from Intestinal Tract. C. F. Cori, Buffalo —p 691.
Relation of Leg Weakness in Growing Chicks to Mammalian Rickets. A. M. Pappenheimer and L C Dunn, Storrs, Conn —p 717.
Influence of Insulin Administered Orally and Subcutaneously in Phlorhizin Diabetes O H Gaebler and J. H Murlin, Rochester, N Y. —p 731.
*Method for Determination of Energy Values of Foods and Excreta. F. D Benedict and E. L. Fox, Boston —p 783.
*Excretion of Normal Urine Sugar. N R. Blatherwick, M. Bell, E Hill and M L Long, Santa Barbara, Calif.—p 801.
Use of Quinhydrone Electrode for Determination of Hydrion Concentration of Feces C. S Robinson, East Lansing, Mich —p 811.
Nutritional Requirement of Chicken VI Does Chicken Require Vitamin C? E. B. Hart, H. Steenbock and S. Lepkovsky, Madison, Wis —p 813.
Ultraviolet Absorption Spectrums of Blood Serum and Certain Amino-Acids W. Stenstrom and M Reinhard, Buffalo.—p 819
*Effect of Orange Juice on Calcium, Phosphorus, Magnesium and Nitrogen Retention and Urinary Organic Acids of Growing Children. M S. Chaney and K. Blunt, Chicago —p. 829
*Maintenance Values for Proteins of Milk, Meat, Bread and Milk, and Soy Bean Curd M S Rose and G. MacLeod, New York —p 847.
Insulin and Phlorhizin Diabetes II T. P Nash, Jr, Memphis —p 869.
Effect of Temperature on Acid Base Protein Equilibrium: Influence on Carbon Dioxid Absorption Curve of Whole Blood, True and Separated Serum. W C. Stadie, J. H. Austin and H. W. Robinson. Philadelphia —p 901.

Serum Calcium in Experimental Hypocalcemia.—This investigation by Moritz indicates that in a general way a decrease in serum calcium, such as occurs following thyroparathyroidectomy, shows a disproportionately great decrease of the diffusible fraction But in an increase in serum calcium produced by injection of parathyroid extract (Collip) the ratio of the two did not show consistent changes.

Blood Changes During Digestion.—The experimental results presented by Morgulis furnish evidence that, during the absorption of protein digestion products, the urea nitrogen of the systemic blood frequently increases before the amino-acid nitrogen Not infrequently a fall in the amino-acid nitrogen of the blood has been found in the early stages of the digestive process. Morgulis believes that these experiments furnish proof of the urea-forming function of the liver in the intact animal.

Antirachitic Properties of Hays.—Steenbock et al. assert that antirachitic properties of hays are related to their exposure to sunlight. Clover hay made with exposure to sunlight showed considerable calcifying power, while the clover hay made in the dark was inactive. Direct irradiation of a milking goat with ultraviolet rays brought about a positive calcium balance even when the animal was receiving the weathered clover, which by itself had no beneficial effect.

Raising Antirachitic Properties of Cow's Milk by Irradiation.—By exposure to the radiations of a quartz mercury vapor lamp, the antirachitic properties of cow's milk were increased eight or more times. Under the same conditions a sample of goat's milk was increased in activity about twenty-four times. This increase in activity can also be induced rather promptly, though to a lesser degree, by direct irradiation of the animal. Attention is called by Steenbock et al. to the beneficial results to be expected from this by dairymen

Antirachitic Substances.—Results reported by Bills are, that antirachitic vitamin in cod liver oil was destroyed by *n*-butyl nitrite, slowly at room temperature, and rapidly on heating Some seal oil was found to be inactive, but irradiated cholesterol dissolved in the seal oil was moderately antirachitic. When the irradiated cholesterol was dissolved in cod liver oil and heated with *n*-butyl nitrite, the antirachitic activity was destroyed. These reactions support, but do not prove, the hypothesis that the antirachitic vitamin is identical with the antirachitic derivative of cholesterol produced by irradiation.

Action of Acids, Alkalis and Enzymes on Insulin.—Shonle and Waldo conclude that insulin may be of a true protein structure possessing specific physiologic activity or it may consist of a chemical complex attached to a protein structure However, when the protein is broken down into slightly smaller units, by either acid, alkali, or enzyme, the physiologic functioning is lost.

Retention of Uric Acid During Fasting.—Measurements made by Lennox of uric acid in blood and urine during twenty-one fasting periods revealed the fact that variations in excretion of uric acid following the use of various purine-free diets do not mean variations in production, but variations in the amounts of uric acid contained in blood and tissues. The observations suggest the use of a low fat diet in the treatment of gout. Disturbance in kidney function and in metabolism of the body both played a part in the retention. Of various possible factors examined, the attending ketosis seemed the most constant. It is probable that various interrelated disturbances in oxidation and in the acid-base equilibrium of the blood and body tissues are involved.

Effect of Vitamin A Deficiency on Nitrogen Metabolism.—A theory is advanced by Morgan and Osborn to account for the differences between the excretion of allantoin and uric acid in normal and vitamin A deficient animals. It is suggested that in the absence of vitamin A, the animal organism fails to produce purine-containing compounds from the ordinary sources, perhaps arginine and histidine, but continues to utilize over again such portions of discarded purine ring-containing substances as are ordinarily excreted in the form of allantoin. The portions of these compounds which are oxidized only to uric acid are apparently no longer usable and continue to be excreted in proportion to the amount of destruction of cellular material in vitamin A deficient animals in the same manner as in normal animals.

Ultraviolet Irradiation of Hen Affects Vitamin Content of Hen's Egg.—It is asserted by Hughes et al. that the amount of ultraviolet irradiation which a hen receives is an important factor in determining the antirachitic vitamin content of the eggs which she produces when her feed is low in the antirachitic vitamin. Eggs which have a low antirachitic vitamin content do not have as high a hatchability as eggs having a high antirachitic vitamin content, other factors influencing hatchability being constant.

Effect of Excessive Calcium Ingestion.—Denis and Corley present evidence to show that rabbits receiving a daily dose of calcium chloride or calcium lactate showed no higher calcium content of the tissues than did the control animals. Daily exposure to ultraviolet rays from a mercury tungsten arc was also without effect on the calcium content of the tissues and serum.

Determination of Energy Value of Foods.—A method has been developed and tested by Benedict and Fox for the indirect determination of the energy values of foods, feeding stuffs and excreta. The functional principle involves the direct measurement of the oxygen consumed during the combustion of a known weight of a substance and the computation therefrom of the potential energy of the substance by means of a series of factors for the calorific value of a liter of oxygen previously established with a bomb calorimeter. The apparatus embodying this principle has been styled the "oxy-calorimeter."

Excretion of Normal Urine Sugar.—Experiments made by Blatherwick et al. show that the addition of glucose to a standing diet causes an increased excretion of fermentable sugar without any significant change in the nonfermentable fraction. These results indicate the chief source of the fermentable sugar to be the main carbohydrate metabolism. The nonfermentable reducing substances appear to be largely dependent on the protein metabolism.

Effect of Ingestion of Orange Juice.—A study was conducted by Chaney and Blunt on two growing girls, aged 10 and 11, respectively, to determine the effect of orange juice on calcium, phosphorus, magnesium and nitrogen metabolism. Calcium assimilation was decidedly benefited when oranges formed a part of the diet, the increased retention being considerably greater than the calcium added in the oranges and greater than might be expected from a stimulus to retention caused by a larger calcium intake. The increase in phosphorus retention was even more marked than that of calcium, more than three times as much phosphorus both in grams and percentage of intake being assimilated when orange juice was added. The magnesium retention was also increased, although to a less marked extent than that of calcium and phosphorus. Nitrogen assimilation was greater when orange juice was ingested, even though the nitrogen intake was not altered. Urinary ammonia was decreased, and urinary p_H and organic acids increased. The increase of organic acids amounted to approximately 7 per cent of the citric acid of the orange juice ingested. A marked increase in the children's weight was observed.

Maintenance Values of Certain Proteins.—The evidence presented by Rose and MacLeod indicates that the nitrogen balance can be maintained with milk, meat, or white bread and milk in amounts to contribute each half of the protein, with a protein intake which is not more than 85 per cent of the average maintenance requirement of adults, but that the efficiency of meat is slightly less than that of milk or bread and milk.

Journal of Experimental Medicine, Baltimore

43: 143-288 (Feb. 1) 1926

Microbic Virulence and Host Susceptibility in Paratyphoid Enteritidis Infection of White Mice. IX. Relationship of Dosage to Mortality Rate, Survival Time and Cage Population. I. W. Pritchett, New York.—p. 143.
Id. X. Relative Susceptibility of Different Strains of Mice to Per Os Infection with Type II Bacillus of Mouse Typhoid (Bacillus Pestis Caviae). I. W. Pritchett, New York.—p. 161.
Id. XI. Seasonal Variation in Susceptibility of Different Strains of Mice to Per Os Infection with Type II Bacillus of Mouse Typhoid (Bacillus Pestis Caviae). I. W. Pritchett, New York.—p. 173.
Relation of Thyroid to Surface Tension of Blood Plasma. I. Effect of Thyroidectomy. C. M. Wilhelmj and M. S. Fleisher, St. Louis.—p. 179.
Id. II. Effect of Administration of Thyroid Extract and Thyroxin. C. M. Wilhelmj and M. S. Fleisher, St. Louis.—p. 195.
*Relation of Bacillus Abortus from Bovine Sources to Malta Fever. T. Smith, Princeton, N. J.—p. 207.
*Agglutination Affinities of Abortus-Melitensis Group of Bacteria with Special Reference to Two Human Strains. M. L. Orcutt, Princeton, N. J.—p. 225.
*Origin of Lepra Cell. J. Oliver, San Francisco.—p. 233.
Effects of Spontaneous Disease on Organ Weights of Rabbits. W. H. Brown, L. Pearce and C. M. Van Allen, New York.—p. 241.
Allergic Irritability. III. Influence of Chronic Infections and Trypan Blue on Formation of Specific Antibodies. P. A. Lewis and D. Loomis, Princeton, N. J.—p. 263.
*Nuclear Inclusions in Testes of Monkeys Injected with Tissue of Human Varicella Lesions. T. M. Rivers, New York.—p. 275.

Relation of Bacillus Abortus from Bovine Sources to Malta Fever.—Two cultures resembling *Bacillus abortus* from cattle, isolated by Smith from human cases of so-called Malta fever, are shown to be in their effect on guinea-pigs not identical with the bovine strains. The results of studies of *B. abortus* from swine indicate a close relation between the porcine strains and the two human strains.

Agglutination Affinities of Abortus-Melitensis Group of Bacteria.—The conclusions drawn by Orcutt from this study are that, while there appears to be evidence of serologic distinctions between *B. abortus* and *B. melitensis* cultures as studied by earlier workers, her experiments show no serologic distinctions among the six strains used in the study. *B. melitensis* II and *B. melitensis* III were found identical with the bovine and swine strains by means of agglutination and agglutinin absorption reactions in unheated serums, by agglutination in heated serums, and with the use of heated cultures in unheated and heated serums.

Origin of Lepra Cell.—By means of the method of vital staining, Oliver found that the lepra cell in rat leprosy is derived from the histocyte. From the similarity in morphology and function of the lepra cells in this condition and those of human leprosy, it seems likely that derivation of the cells in the two conditions is similar.

Nuclear Inclusions in Varicella Lesions.—Eosin-staining nuclear inclusions resembling those deemed characteristic of a certain well known group of filtrable viruses, among which is varicella, were found by Rivers in vervets' testes inoculated with emulsified tissue of human varicella lesions.

Journal of Nervous and Mental Disease, New York

63: 105-208 (Feb.) 1926

*Pupils in Somatic and Visceral Disorders in Association with Referred Pain and Hyperalgesia. J. Byrne, New York.—p. 105.
*Dementia Praecox in Identical Twins. G. H. Parker, Cambridge, Mass.—p. 135.
*Four Cases of Spinal Cord Compression. S. Rothenberg, Brooklyn.—p. 143.

Pupils in Somatic and Visceral Disease.—As the result of his observation, Byrne urges that the study of the pupils in association with referred and reflected pain and hyperalgesia should be made an integral part of all routine physical examinations. Byrne avers that the areas of reflected pain and hyperalgesia described by Head require revision and amendment, and the Dejerine or Klumpke-Dejerine sign in injuries of the spine about the thoracicocervical junction needs reevalution.

Dementia Praecox in Twins.—The conclusion is reached by Parker that dementia praecox is germinal in origin; that it is a mendelian recessive as compared with the normal state. The occurrence of this disease in one of a pair of twins should lead the attending physician to an immediate examination of the other twin.

Spinal Cord Compression.—Significant in the symptomatology of the four cases reported by Rothenberg was the rapid development of the compression, and the infrequency of pain as a prominent symptom. The compression in these cases was due to: osteomyelitis, *Cysticercus cellulosae* infectoin, endothelioma and Hodgkin's disease.

Journal of Urology, Baltimore

15: 111-218 (Feb.) 1926

*Effect of Diuretics on Transplanted Kidneys. J. K. Holloway, Rochester, Minn.—p. 111.
*Etiology of Calcareous Pyelonephritis. B. H. Hager, Madison, Wis.—p. 133.
Primary Papillary Epithelioma of Renal Pelvis: Case. W. W. White and C. O. Ritch.—p. 143.
Study of Urinary Tract in Necropsy Specimens. A. E. Goldstein and W. J. Carson, College Park, Md.—p. 155.
Phleboliths. J. M. Culligan, Rochester, Minn.—p. 175.
Urinary Regurgitation and Renal Colic. B. Lewis, St. Louis.—p. 189.
*Effect of Section of Both Sacral Nerves on Intravesical Pressure. J. C. Potter, Rochester, Minn.—p. 197.
*Cavernous Hemangioma of Bladder. H. Katz, Chicago.—p. 201.
Bacterial Cystitis in Female. W. T. Briggs, Lexington, Ky.—p. 209.

Effect of Diuretics on Transplanted Kidneys.—A series of experiments was performed by Holloway on dogs in an attempt to determine the effect of diuretics, injected intravenously, on autogenous and homogenous kidney transplants. The functional activity and also the secretion of autogenous transplants are apparently similar, if not identical, to those of a normal kidney. The effect of diuretics is the same as on a normal kidney. Viability is maintained indefinitely, likewise function. Homogenous transplants maintain only a transient viability, and their functional activity is usually short-lived. As long as homogenous transplants remain viable, they function in a manner similar to autogenous transplants. They tend to eliminate urine which in most respects is similar to urine secreted by normal kidneys. As a rule, however, the early appearance of albumin, red blood cells and pus denotes marked parenchymatous changes in the kidney. While functioning, the homogenous transplant tends to respond to a diuretic in very much the same manner as does a normal kidney, except that diuresis is not so marked or so prolonged. Loss of function and lack of response to diuretics are apparently directly in proportion to pathologic changes within the transplanted kidney. When function has ceased, the introduction of a diuretic is without effect.

Etiology of Calcareous Pyelonephritis.—Hager reports a case of calcareous pyelonephritis from which he was able to isolate *Salmonella ammoniae*. The data obtained from this case agree with chemical and experimental data obtained from the study of alkaline encrusted cystitis and offer an explanation of the etiology of calcareous pyelonephritis.

Effect on Bladder of Section of Sacral Nerves.—By means of experiments on dogs, Potter shows that section of both sacral nerves does not affect the vesical tone or the mechanism of micturition; nor does it cause retention of urine or reflux up the ureter.

Cavernous Hemangioma of Bladder.—Ten cases of cavernous hemangioma of the bladder are recorded in the literature. Of these, three were confirmed by microscopic examination. Another case is reported by Katz, which was verified by necropsy and microscopic examination. Treatment is immediate operation and cauterization.

Kentucky Medical Journal, Bowling Green

25: 81-114 (Feb.) 1926

Intravenous Medication. W. R. Burr, Auburn.—p. 83.
Radiotherapy in Cancer of Breast. J. Paul and D. Y. Keith, Louisville.—p. 86.
So-Called Keratoderma Blennorrhagica: Case. C. B. Willmott, Louisville.—p. 90.
Cerebral Traumatism. J. G. Sherrill, Louisville.—p. 91.
Conservative Treatment of Head Injuries. H. H. Hagan, Louisville.—p. 94.
Prostatotomy: Case. S. C. McCoy, Louisville.—p. 97.
Scarlet Fever: Case. C. A. Eckler, Dry Ridge.—p. 98.
Tests for Excretory Function of Kidney. F. C. Askenstedt, Louisville.—p. 98.
Lymphosarcoma of Tonsil: Migraine with Hemianopsia. S. C. Dabney, Louisville.—p. 102.
Intracranial Hemorrhage in Infant. B. C. Frazier, Louisville.—p. 107.
Analysis of One Hundred Radium Cases. C. D. Enfield, Louisville.—p. 108.

Medical Journal and Record, New York

123: 213-280 (Feb. 17) 1926

Relations Between Physician and Patient. M. Einhorn, New York.—p. 213.
Intracranial Hemorrhage in New-Born. A. S. Maclaire, New York.—p. 215.
Soft Palate as Place for Signs of Disease. P. Neuda, Vienna.—p. 219.
External Respiratory Mechanism in Injury and Disease. J. Byrne, New York.—p. 220.
Insect Bites as Cause of Heart Disease. G. A. Stephens, Swansea, Wales.—p. 224.
Large Intestine and Vagus Sympathetic Action by Atropine and Eserine. S. D. Ludlum and E. McDonald, Philadelphia.—p. 228.
Toothbrush. O. T. Osborne, New Haven, Conn.—p. 230.
City Enforcement of Drug Laws. S. D. Hubbard, New York.—p. 231.
Use of Sodium Iodide Intravenously in Infections and Allergies. J. W. Wiltsie, Binghamton, N. Y.—p. 235.
Nonspecific Protein Therapy in Pelvic Infections. J. Jarcho, New York.—p. 237.
Obstetrics and Future. H. Thoms, New Haven, Conn.—p. 239.
Extra-Uterine Abdominal Pregnancy. C. S. Wachs, Philadelphia.—p. 241.
Urology in Female. T. J. McBee, Morgantown, W. Va.—p. 242.
Treatment of Uncomplicated Gonorrhea in Female. H. W. Martin, Los Angeles.—p. 246.
Early Signs of Pregnancy. L. Drosin, New York.—p. 248.
Glucose as an Oxytocic. M. P. Rucker, Richmond, Va.—p. 252.
Importance of Previous Labors in Obstetric History. M. Rosensohn, New York.—p. 253.

Nebraska State Medical Journal, Norfolk

11: 49-88 (Feb.) 1926

Treatment of Different Types of Tachycardia. A. L. Smith, Lincoln.—p. 49.
Ectopic Gestation. H. Melerian, Plainview.—p. 54.
Conditions Affecting Practice of Medicine. F. B. Young, Gering.—p. 60.
Nutrition. 11. Acid-Base Equilibrium with Reference to Pediatrics. H. V. E. Levine, Omaha.—p. 66.
Suppurative Parotitis. J. S. Welch, Lincoln.—p. 73.
Control of Postoperative Tonsillar Hemorrhage. J. C. Tucker, Beatrice.—p. 75.
Medical Meetings. C. L. Hustead, Falls City.—p. 77.

Northwest Medicine, Seattle

25: 57-110 (Feb.) 1926

*Importance of Routine Wassermann Test in Private Practice. R. Fitz, Boston.—p. 57.
Infection with Parasite of Syphilis. H. M. Greene, Portland.—p. 62.
Syphilis of Aorta. J. B. Herrick, Chicago.—p. 65.
*Symptoms of Ureteral Stricture. A. H. Peacock and R. F. Hain, Seattle.—p. 72.
Recognition and Treatment of Urinary Infection. W. F. Braasch, Rochester, Minn.—p. 76.
Diagnosis of Late Cutaneous Lesions of Syphilis. H. Odland, Seattle.—p. 81.
*Abuse of Vasotomy. G. S. Morgan, Astoria.—p. 83.
Tuberculosis of Kidney. S. Bozorth, Portland.—p. 84.
*Trauma and Tuberculosis of Kidney in Diabetic. H. W. Howard and J. LeCoque, Portland.—p. 88.
Stricture of Esophagus: Case. P. W. Spickard, Seattle.—p. 90.
Congenital Stenosis of Esophagus: Two Cases. J. H. Fitzgibbon, Portland.—p. 94.
Biologic Method (Aluminum-Potassium-Nitrate Solution) of Treating Chronic Suppurations. M. Thorek, Chicago.—p. 95.

Importance of Routine Wassermann Test.—Fitz reports an analysis of the histories of 350 unselected private patients with a view to determining the occurrence of syphilis in private practice, and in order to illustrate the diagnostic importance of a routine Wassermann test. Of these patients approximately 5 per cent were suffering from some form of syphilis. An underlying syphilis was present in at least 80 per cent of the cases with strongly positive Wassermann reactions. Therefore, the Wassermann test was of great diagnostic importance.

Ureteral Stricture.—Peacock and Hain present the results of a study of 100 cases and give a synopsis of fifty cases of ureteral stricture.

Vasotomy.—Vasotomy, in Morgan's opinion, is a logical and valuable form of therapy in certain cases, especially those of recurrent epididymitis and gonorrheal arthritis, but, he says, it should be performed only by one whose technic is not only perfect but whose judgment is excellent.

Trauma and Tuberculosis of Kidney.—Two features are stressed by Howard and LeCoque in the report of their case: First, trauma appears to have been a factor in the localization of tuberculosis in the kidney, and, second, a fistula developed between the pelvis of the kidney and the skin through Petit's triangle.

Quarterly Review of Biology, Baltimore

1: 1-136 (Jan.) 1926

Biology of Mammalian Testis and Scrotum. C. R. Moore, Chicago.—p. 4.
Symbiosis Among Animals with Special Reference to Termites and Their Intestinal Flagellates. L. R. Cleveland, Boston.—p. 51.
Experimental Studies on Morphogenesis in Nervous System. S. R. Detwiler, Cambridge, Mass.—p. 61.
Review of Discovery of Photoperiodism: Influence of Length of Daily Light Periods on Growth of Plants. K. F. Kellerman, Washington, D. C.—p. 87.
Recent Discoveries in Biology of Ameba. A. A. Schaeffer, Lawrence, Kan.—p. 95.

Wisconsin Medical Journal, Milwaukee

25: 57-106 (Feb.) 1926

Periodic Examinations of Presumably Healthy Persons. J. E. Reichert, West Bend.—p. 57.
Renal Tuberculosis. E. M. Medlar, Madison.—p. 59.
Significance of Late Results of Surgical Treatment. W. E. Fairfield, Green Bay.—p. 63.
Compensation for Loss of Vision Due to Industrial Diseases or Injuries. N. M. Black, Milwaukee.—p. 67.
Psychoneuroses: Heredity and Environment Influences. M. Q. Howard, Wauwatosa.—p. 70.
Radium Treatment of Uterine Fibroids: One Hundred and Ten Cases. L. D. Quigley, Green Bay.—p. 74.
Immunity Against Tuberculosis in Childhood. G. R. Ernst, Milwaukee.—p. 76.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

20: 1-143 (Feb. 11) 1926

*Development of Onchocerca Volvulus in Simulium Damnosum. D. B. Blacklock.—p. 1.
*Development of Hookworm Larvae. I. P. A. Maplestone.—p. 49.
Breeding Anopheline Mosquitoes in and Around Freetown, Sierra Leone. D. B. Blacklock and A. M. Evans.—p. 59.
Cultivation of Endameba Ranarum. H. P. Barret and N. M. Smith.—p. 85.
Morphology of Motile and Encysted Endameba Ranarum in Culture. W. H. Taliaferro and A. B. Fisher.—p. 89.
Freetown Mosquitoes: New and Little-Known Species. A. M. Evans.—p. 97.
Mouth Parts, Alimentary Tract and Salivary Apparatus of Female in Phlebotomus Papatashii. S. Adler and O. Theodor.—p. 109.
*Case of Porocephalosis. D. Riding.—p. 143.

Onchocerca Volvulus Infection. — *Onchocerca volvulus* infection is common in the Konno district of the protectorate of Sierra Leone. Larvae of this parasite were found by Blacklock in the skin of 45 per cent of persons examined systematically. A definite relationship between diseases of the skin or diseases of the eyes and the infection with *O. volvulus*, as judged by the presence of larvae in the skin, could not be established. Dissection of wild insects showed: (*a*) in 780 dissections of the gut an infection of 2.6 per cent with larvae morphologically identical with those of *O. volvulus;* (*b*) in 1,320 dissections of the thorax, a larval infection of over 1 per cent.

Development of Hookworm Larvae.—The evidence presented by Maplestone tends to show that sea water and sea sand per se have no effect in preventing the development of hookworm eggs and larvae.

Porocephalosis.—In the liver of a Sudanese man who died from pulmonary tuberculosis, Riding found several encysted larvae of *Porocephalus armillatus* and also eight similar cysts in the submucosa of the duodenum. No free nymphae were noticed in the peritoneal cavity, and no encysted larvae were found in the lungs. The parasite was not the immediate cause of death; the possibility that the destructive action of the parasite in the lungs predisposed to the development of the tubercular infection was considered, although no encysted larvae were found in these organs.

British Journal of Dermatology and Syphilis, London

38: 47-100 (Feb.) 1926

Bowen's Dermatosis. P. L. Bosellini.—p. 47.
Voltaire on Syphilis. J. D. Rolleston.—p. 64.

British Journal of Radiology, London

31: 45-80 (Feb.) 1926

Saturation Method in Roentgenotherapy, as Applied to Deep Seated Malignant Disease. G. E. Pfahler.—p. 45.
Treatment of Fifteen Cases of Operable Carcinoma of Breast by Radium and Roentgen Rays. J. H. D. Webster, J. P. Thierens and F. G. Nicholas.—p. 59.
Effect on Tuberculosis of Bones and Joints of Food Exposed to Ultraviolet Radiations. C. L. Pattison.—p. 65.
Some Effects of Mercury Vapor Arc Baths on Blood. R. G. Bannerman.—p. 71.

British Medical Journal, London

1: 311-358 (Feb. 20) 1926

Orthopedic Aspects of Chronic Arthritis. R. B. Osgood.—p. 311.
*Phrenic Evulsion as Aid to Treatment of Pulmonary Tuberculosis and Bronchiectasis. H. M. Davies.—p. 315.
Full-Time Ovarian Fetation: Child Dead. L. E. Acomb and T. I. Candy.—p. 320.
Disappearing Diseases. C. E. S. Flemming.—p. 321.
Prediverticular State and Diverticulosis. S. Barling.—p. 322.
*New Occupational Bursa on Tibia ("Dustman's" Bursa). W. M. Eccles.—p. 323.
*Blood Sugar in Case of Addison's Disease. E. F. Chapman.—p. 323.
Rash Following Barbitone-Sodium. P. W. Mathew.—p. 323.
Saccharin in Dispensing. T. W. Preston.—p. 334.

Phrenic Evulsion in Pulmonary Tuberculosis.—Davies has performed phrenic evulsion twenty times: (1) For the purpose of arresting the disease, 3 times; (2) to assist in controlling disease, 4 times; (3) as an accessory during artificial pneumothorax treatment, 5 times; (4) for the treatment of symptoms, 2 times; (5) as a preliminary to thoracoplasty, 4 times; (6) as a preliminary to the radical treatment of a tuberculous empyema, 2 times.

Occupational Bursa on Tibia.—Eccles says that a dustman not infrequently has a short ladder by the side of his dust cart, and that he mounts two or three rungs of this, and then leans with the upper third of his tibia against one of the higher rungs. In the case reported, the man had an adventitious bursa on the left leg, while on the right leg the skin was roughened at the site where the intermittent pressure had been applied.

Blood Sugar Curve in Addison's Disease.—The blood sugar curve in the case of Addison's disease reported by Chapman was remarkably flat, in accordance with a raised tolerance for glucose.

Calcutta Medical Journal

20: 177-216 (Nov.) 1925

Urea Stibamine in Kala-Azar: Sixteen Cases. N. C. Mitra.—p. 177.
Retinal Hemorrhage in Kala-Azar. B. N. Bhaduri.—p. 186.

Indian Medical Gazette, Calcutta

61: 1-52 (Jan.) 1926

Cholera in Punjab in 1925. C. A. Gill.—p. 1.
Outbreak of Cholera at Goalundo Chat. W. J. Marshall.—p. 4.
*Occurrence of Urticaria in Treatment of Malaria by Quinine. T. A. Hughes.—p. 7.
Malaria in Agency Tracts, Madras Presidency. J. Dhairyam.—p. 9.
*Species of Trichomonas (Pentatrichomonas) Prevalent in Calcutta. B. M. Das Gupta.—p. 10.
Soil Acidity and Survival of Hookworm Larvae. L. F. Hirst.—p. 14.
Id. A. C. Chandler.—p. 17.
Some Predisposing Factors in Asthma. M. A. K. Iyer.—p. 18.
Snake-Bite Treated with Antivenomous Serum. L. A. P. Anderson.—p. 19.
Case of Kala-Azar in Simla Hills. B. J. Bouche.—p. 20.
*Foreign Body in Pelvis. K. M. Nayak.—p. 21.
*Case of Hirudiniasis of Male Urethra. P. N. Mitra.—p. 22.
Anthrax Contracted from Handling Infected Beef. A. K. Mukerji.—p. 22.
Case of Bilateral Dislocation of Lens. A. H. Driver.—p. 23.
Expulsive Hemorrhage in Cataract Operations in Rural Practice. K. B. Isbrain.—p. 24.
Case of Severe Abdominal Injury. R. K. Basu.—p. 24.
Case of Strangulated Inguinal Hernia. H. C. Gupta.—p. 25.
Vagaries of Malaria: Hepatic Type. A. Bayley-De Castro.—p. 25.
Gastro-Intestinal Type of Malaria: Five Cases. M. H. Jhaveri.—p. 26.
Sensitiveness to Meat: Induced Immunity. P. N. Mitra.—p. 26.
Synovitis Treated by Iodine Intravenously. K. N. Chatterjee.—p. 26.

Quinine Causes Urticaria.—Two cases are recorded by Hughes in one of which quinine, given in the treatment of malaria, produced a marked urticarial eruption all over the body, while in the other it aggravated a generalized urticaria already existing as a result of a malarial attack.

Pentatrichomonas Prevalent in Calcutta.—In twenty-three cases examined by Gupta the prevalent type (or genus or subgenus) of human intestinal trichomonad was *Pentatrichomonas ardin-delteili* (Derrieu and Raynaud), 1914. This confirms a previous similar finding by Chatterji (1917) and appears to afford evidence that *Pentatrichomonas* is a parasite with a tropical distribution, whereas *Trichomonas,* sensu strictum, is a parasite rather of temperate zones.

Foreign Body in Pelvis.—Nayak reports the case of a woman who consulted him for a swelling on the right side, immediately above and behind the highest point of the crest of the ilium. No information could be got regarding the previous history, so the diagnosis lay provisionally between a suppurating hematoma and a tubercular abscess of the spine pointing in the iliac region. The swelling was incised. Nearly 2 ounces (59 cc.) of curdy matter tinged with blood was evacuated; the cavity was irrigated and just before being closed was explored with the finger. The cavity was retroperitoneal and its floor was formed by the iliac bone. At the bottom, a small hard pointed object like a spicule of bone was striking against the tip of the finger. On removal this proved to be a piece of coconut broomstick, 4 inches (10 cm.) long. The patient then admitted that the piece of wood had been introduced par vaginum to induce abortion. Instead of pushing it into the uterus, she pushed it the wrong way outside of the cervix, pierced the vaginal wall and sent it right home into the right pelvic wall.

Hirudiniasis of Male Urethra.—Mitra's patient was standing knee-deep in water without any clothes on, when he noticed a leech entering his external meatus urinarius. He tried to pull it out but the leech slipped inside. From then on he was unable to pass any urine and blood dripped from his urethra. Some strong salt solution and epinephrine were injected into the bladder. Two days later the leech was passed with violent colicky pains. It was killed by the salt solution. It measured 4 inches by ½ inch; the mouth and anus were open, and dark granular blood could be pressed out of its abdomen.

Indian Medical Record, Calcutta

45: 1-24 (Jan.) 1926

Infectiousness of Kala-Azar and Its Control. A. C. Chatterjee.—p. 1.
Nonspecific Therapy. A. Roy.—p. 15.
Causes of Rise of Temperature After Childbirth: Treatment. C. C. Pal. —p. 19.

Journal of Mental Science, London

72: 1-169 (Jan.) 1926

Endogenous and Exogenous Factors in Character Formation. G. A. Auden.—p. 1.
Myth of Unconscious Mind. J. S. Bolton.—p. 25.
Story of Central Mental Hospital, Tanjong Rambutan, Federated Malay States. W. F. Samuels.—p. 39.
Some Aspects of Sociology and Their Psychiatric Application. I. D. Suttie.—p. 49.
Phosphorus and Calcium Content of Blood Plasma and Cerebrospinal Fluid in Psychoses. H. A. Scholberg and E. Goodall.—p. 51.
Cerebrospinal Fluid in Lethargic Encephalitis. A. Hancock.—p. 58.
Cholesterol Control of Cerebrospinal Fluid in Certain Mental Diseases. E. G. T. Poynder and J. Russell.—p. 62.
Acquired Immunity to Malarial Inoculation. J. E. Nicole and J. P. Steel.—p. 66.
Incubation Period of Benign Tertian Malaria. G. de M. Rudolph.—p. 69.
Fecal Acidity in Insane Epileptic. G. Cobb.—p. 83.
Treatment by Hypnotic and Hypnoidal Methods of Extern Cases. J. J. Fitzgerald.—p. 85.
Circulation of Hands in Primary Dementia. P. B. Mumford.—p. 90.

Journal of Oriental Medicine, Dairen, Southern Manchuria

4: 15-24 (Jan.) 1926

Pharmacologic Action of Epinephrine on Pupils of Rabbit After Extirpation of Superior Cervical Ganglion. R. Tsukamoto.—p. 15.
Action of Insulin on Protein Metabolism of Rabbits Fed on Thyroid. H. Senga.—p. 16.
Normal Histology of Coronary Arteries: Beginning Sclerotic Changes, Especially in Acute Infectious Diseases. K. Hiyeda.—p. 17.
Basal Metabolism in Beriberi. H. Senga and Y. Yasutomi.—p. 18.
Experimental Arteriosclerosis. M. Imai.—p. 19.
Case of Hysteria with High Temperature. T. Aoki.—p. 19.
Anesthetic Action of Paranesins. T. Okanishi.—p. 20.
Osmotic Pressure of Spinal Fluid. J. Kaneko.—p. 21.
Roentgen-Ray Study of Child's Skull. II. K. Okashima.—p. 22.

Journal of Tropical Medicine and Hygiene, London

29: 41-52 (Feb. 1) 1926

Study of Endameba Blattae (Butschli, 1878) Leidy, 1879, Found Parasitic in Intestine of Blatta Orientalis in England. J. G. Thompson. —p. 41.
Morphologic and Cultural Investigation of Vibriothrix Zeylanica Castellani. M. Peruzzi.—p. 44.
Biochemical Reactions of Certain Fungi: Monilia Krusei, M. Macedoniensis and M. Tropicalis. E. C. Spear.—p. 47.
Acquired Immunity to Malarial Inoculation. J. E. Nicole and J. P. Steel. —p. 48.

Kenya Medical Journal, Nairobi, East Africa

2: 275-298 (Jan.) 1926

Mosquito Breeding Areas Within Nairobi Municipal Area: Waters Containing Anopheline Larvae. V. G. L. van Someren and H. S. De Boer. —p. 277.

Lancet, London

1: 323-376 (Feb. 13) 1926

Pseudohermaphroditism and Hypospadias: Surgical Treatment. A. Edmunds.—p. 323.
Right Iliac Fossa Pain. H. W. Carson.—p. 328.
Celiac Disease. R. Miller.—p. 330.
*Familial Telangiectasia. C. F. T. East.—p. 332.
*Carcinoma of Prostate. A. C. Morson.—p. 335.
Abscess and Gangrene of Lung. T. P. Williams.—p. 336.
*Scopolamine-Morphine Narcosis in Childbirth: One Hundred Cases. E. C. Plummer.—p. 338.
*Case of "Lag" Glycosuria. E. M. Watson.—p. 339.
Case of Traumatic Supraclavicular Adenitis. F. Bodman.—p. 340.
Floating Hepatic Lobe: Case. A. J. E. Cave.—p. 340.

Familial Telangiectasia.—The marked symptom of multiple familial facial telangiectases is epistaxis, coming from the lesions in the nose or bleeding from similar lesions elsewhere. East gives an account of a family in which eleven members in three generations were affected. Only four persons, in two generations, remained free from the disease. In a second family, fifteen out of thirty persons were affected. In a third family, mother and daughter, each an only child, were affected. The latter's five children died young but were free from the disease. The condition appears equally in males or females, but is transmitted rather more often by females. Only six of the twenty-eight cases reported by East were in males.

Operation for Carcinoma of Prostate.—The principles which underlie the operation devised by Morson differ in no material respect from Young's, except that the approach to the gland is from above—suprapubically. All the tissues which form the base of the bladder as far back as the inter-ureteric bar and the anterior wall of the rectum are removed.

Scopolamine-Morphine Narcosis in Childbirth.—Provided that the dosage is limited to the production of amnesia only, and is adjusted to the individual, Plummer cannot see any contraindications to scopolamine-morphine narcosis in childbirth. The constant supervision that is essential makes it unsuitable, however, save in exceptional circumstances, for administration in the patient's own home. In hospitals, it is difficult to insure quiet. Full chloroform anesthesia may be given at any time for such procedures as version or rotation of an occipitoposterior presentation, the scopolamine-morphine being continued afterward, if necessary; or for a terminal forceps extraction, or perineal repair. One great advantage of this procedure is that as the mother is conserving her strength by sleeping, instead of getting worn out by repeated pains and the constant dread of more and worse ones, patients can be left much longer to Nature than would otherwise be possible; in uncomplicated cases the use of forceps merely for the mother's sake is avoided, with consequent lessened risk for mother and child.

"Lag" Glycosuria.—The chief characteristics of the "lag" type of blood-sugar curve are a rapid rise to a maximum of 0.22 or 0.23 per cent in half an hour, followed by an abrupt decline to normal. There is a concurrent glycosuria. The case described by Watson emphasizes the importance of the glucose tolerance test in throwing light on glycosurias of uncertain origin, and also suggests that cognizance should be taken of a possible relationship between the emptying time of the stomach and the distortion of the carbohydrate metabolism in cases of the "lag" type.

Medical Journal of Australia, Sydney

1: 121-146 (Jan. 30) 1926

Some Early Australian Doctors. E. S. Jackson.—p. 121.
*Acute Nephritis in Children: Renal Efficiency Tests. R. Southby and B. L. Stanton.—p. 127.
Complete Transposition of Viscera. A. T. Edwards.—p. 133.

Acute Nephritis in Children.—Southby and Stanton analyze the histories of 103 cases of acute nephritis in children. Twenty-nine children gave a history of having had a sore throat; seventeen children had impetigo; eleven had had pneumonia; fifteen had suffered from measles; in twenty-seven, no etiologic factor was ascertainable. Of the remaining patients, two had had influenza; one had a profuse purulent nasal discharge and was suffering from scabies, with severe secondary infection of the skin. The authors assert that the majority of children suffering from acute nephritis recover completely. Diet is unimportant in influencing the total duration of the illness. Complete rest is important in the treatment.

Okayama Medical Journal, Okayama, Japan

1-118 (Jan.) 1926

Pharmacologic Studies on Peripheral Motor Innervation of Bladder of Mammals. M. Yamauchi.—p. 1.
Ceratocephale Osawai. S. Oinuma.—p. 20.
Thiosulphate Test of Kidney Function. S. Ryoji.—p. 39.
Herpes. I. I. Ehara.—p. 61.
Physical Measurements of Persons with Atonic Stomachs. H. Suga, N. Terao and M. Oka.—p. 72.
Suture of Vas Deferens. M. Sato.—p. 79.
Effect of Roentgen Ray on Digestive Organs. T. Takeda and K. Yuen. —p. 95.

Annales de Médecine, Paris

18: 327-406 (Nov.) 1925

*Tabes Plus Parkinson's Disease. M. G. Marinesco.—p. 327.
*Aspects of Heredity of Tuberculosis. R. Debré and M. Lelong.—p. 347.
Suppurations from Typhoid and Paratyphoid A and B Bacilli. P. Ribierre and V. de Lavergne.—p. 374.
Lambliasis of Biliary Apparatus. M. Labbé et al.—p. 386.
Case of Onychomycosis. L. Bernard et al.—p. 396.

The Lesions in Associated Tabes and Parkinson's Disease.—Marinesco reports a case of tabes associated with Parkinson's disease in a man, aged 47. Necropsy showed the characteristic lesions of tabes, in the lumbosacral region of the spinal cord. There was also considerable destruction of cells in the substantia nigra, with sclerosis and lymphocyte infiltration of the arteries; evident also in the cerebellar peduncles, less in the pons and medulla. These cerebral parenchymal and vascular lesions were similar to those in the roots and meninges of the lumbosacral region. Evidently all these lesions were caused by the same spirochete; its localization in the midbrain had entailed Parkinson's disease; while in the spinal cord it had caused tabes. In eight cases of Parkinson's disease and ten of postencephalitic parkinsonism, the locus niger was always affected. Marinesco refers to Tretiakoff who considers not only the red nucleus but also the substantia nigra as centers controlling the muscular tonus.

Is There Heredity of Tuberculosis?—Debré and Lelong assert that thorough observation, necropsies, microscopic examinations, and inoculations seem to testify that no contamination with tubercle bacilli is possible by way of the placenta; nor is there inheritance of a tuberculous soil. The doctrine of heredity of tuberculosis, they say, is based not on facts, but on impressions. They can find no evidence to sustain them.

Bulletin de l'Académie de Médecine, Paris

95: 119-142 (Feb. 9) 1926

Spirochetes and Gangrene of Lung. F. Bezançon and Etchegoin.—p. 124.
*Arsphenamine Treatment of Fetid Process in Lung. Castex et al.—p. 131.
Irregular Distention of Gravid Uterus. L. Demelin.—p. 135.
Conservation of Fish by Cold. A. Loir and Legangneux.—p. 139.

Treatment of Fetid Respiratory Process.—Castex, Heidenreich and Repetto report a case of fetid expectoration in a man, aged 45. The clinical and roentgen ray examination indicated a cavity from gangrene of the lung, and bronchiectasis. Numerous bacilli were found in the sputum, but no tubercle bacilli. Under intravenous injections of neo-arsphenamine plus balsams, given by the subcutaneous and oral routes, the patient improved but the insupportable fetid odor accompanying the coughing spasms persisted. Then neo-arsphenamine was given by intercricothyroid injection (from 0.3 to 0.9 Gm.) in an aqueous solution; sometimes with glycerin added. This followed anesthesia of the trachea with a procain solution. The injection induced violent coughing and profuse discharge of sputum, for two hours. The fetid odor disappeared completely the next day, and no Vincent bacilli were found in the sputum five days later. The tenth day the fetid odor reappeared; then the injections were repeated, and the dose gradually increased to 0.9 Gm. A total of five injections was given at eight, ten, twelve and fifteen day intervals. The injections were borne relatively well, and the tendency to bronchorrhea was arrested by injection of morphine.

95: 143-174 (Feb. 16) 1926

The Mixed Flora of Bronchial Spirochetosis. H. Vincent.—p. 143.
*Endobronchial Inoculation of Tuberculosis. G. Petit et al.—p. 160.
*The Filtrable Tubercle Bacillus. F. Arloing and A. Dufourt.—p. 163.
The Cancerization Process. J. P. Bounhiol.—p. 168.
Acute Hemorrhagic Form of Syphilitic Iritis. E. Valude.—p. 173.

Endobronchial Inoculations and Experimental Tuberculosis.—Petit, Panisset and Kfoury induced tuberculosis exclusively of the lung in dogs and horses by inoculating the bronchi directly with the bacilli cultures or sputum from tuberculous patients. The inoculating material was introduced with a fine catheter through an opening in the trachea. The cheesy degeneration and cavity of the lung were absolutely identical with those in human tuberculosis.

The Filtrable Tubercle Bacillus and Its Passage Through the Placenta.—Arloing and Dufourt inoculated guinea-pigs with filtrates of different products from tuberculous children. The results were positive in most of the animals, thus testifying to the frequency of the filtrable tuberculous virus in children and infants. In fourteen of the sixteen positive cases there was no inoculation chancre or lesions of the glands. The animals died from progressing cachexia. Necropsy did not show cheesy degeneration, nor even tubercles but numerous acid-resisting bacilli were present in the lymph nodes. The lesions characteristic of human tuberculosis were manifest only in two instances. Gravid guinea-pigs were inoculated with the same filtrates; abundant acid-resisting bacilli were found in the lumbar gland of one fetus entering the last third of intra-uterine life. This is the first instance, they say, of transplacental transmission of the invisible tuberculosis virus of human origin. Research conducted within the last few months on dead infants or fetuses of mothers with pulmonary tuberculosis has given constantly negative results. The filtrable tubercle virus was not found in the blood from the umbilical cord, nor in the placenta.

Bulletins de la Société Médicale des Hôpitaux, Paris

50: 203-242 (Feb. 12) 1926

*Familial Neurosyphilis. G. Guillain et al.—p. 203.
*Enterococcus Pleuroperitonitis with Cirrhosis. Dumitiesco-Mante and R. Olinesco.—p. 214.
*Lipiodol in Roentgenography of the Pericardium. M. R. Castex et al.—p. 217.
*Lipiodol in Diagnosis of Subphrenic Cyst. M. R. Castex et al.—p. 222.
Experimental Research on the Meltzer-Lyon Test. R. Feissly.—p. 227.
*Hemogenia with Fatal Menorrhagia. L. Payan.—p. 233.
Epidemic of Special Type of Epidemic Encephalitis. Veillet.—p. 239.

Familial Neurosyphilis.—In Guillain, Périsson and Thévenard's case the father and mother had tabes, and their son, aged 4, presented bilateral Argyll Robertson pupil and a positive Wassermann test. They know of three similar cases; namely, Apert, Lévy-Fraenkel and Ménard's case of tabes in a girl, aged 15, whose mother also had tabes, and the father had died from general paresis. He had acquired syphilis after the birth of the child and had infected the wife, and the daughter at the age of 3. Baudouin and Lévy-Valensi reported a case in 1910 of general paresis in a youth whose father and mother had died from the same disease. In Grossmann's case (1917), the father and mother presented the Argyll Robertson pupil, and they and the four children had ophthalmoplegia interna. Evidently certain syphilis viruses do not induce skin or visceral lesions, but display a special affinity for the nervous system. This cannot be ascribed merely to a special soil or casual coincidence.

Enterococcus Pleuroperitonitis Complicating Cirrhosis of the Liver.—Dumitresco-Mante and Olinesco were treating a man with cirrhosis and ascites, and signs of chronic alcoholism, when he developed symptoms of infectious pleuroperitonitis. Examination of the effusion revealed the presence of the enterococcus. Since the blood cultures were negative, it is assumed that the coccus had invaded the organism by the intestinal route. It passed thence into the peritoneum, directly or through the biliary tract, thus causing secondary infection of the peritoneum and pleura.

Iodized Oil in Roentgenography of the Pericardium.—Castex, Carelli and Gonzalez had under observation a case of tuberculous pericarditis with hemorrhagic effusion in a young man. Roentgenograms taken after release of 300 cc. of fluid and insufflation of 100 cc. of air revealed considerable thickening of the parietal pericardium, and that the shape of the cardiohepatic angle was an acute angle. A light area between the right edge of the heart and the pericardium suggested the presence of adhesions. After injection into the pericardium of 20 cc. of lipiodol following withdrawal of 100 cc. of the pericardial effusion, it became evident that the acute outline of the cardiohepatic angle was due to the extremely thickened parietal layer of the pericardium, and that there were no adhesions. Repeated lipiodol injections, at from five to fifteen days intervals, did not seem to influence the affection which ran the usual course. The absorption of the iodized oil in the pericardial cavity was very slow, as it was recovered on puncture twenty days later.

Iodized Oil in Diagnosis of Subphrenic Cysts.—Castex, Romano and Gonzalez injected lipiodol in a case of a suppurated hydatid and gas cyst, on the upper surface of the liver. Roentgenograms taken in different positions showed distinctly the contour of the cyst and its connections with the abdominal walls. The injections were also of great help in roentgenographic diagnosis of a suppurating pneumoperitonitis. The injections were always well tolerated.

Case of Hemogenia with Fatal Menorrhagia.—Frequent epistaxis and purpura before and after puberty became associated at the age of 15 with menorrhagia, prolonged for ten days every month. At 17 the patient presented a hemorrhagic effusion in the abdominal cavity, apparently of ovarian origin. Two grave menorrhagias, at a six weeks' interval, occurred at 18, causing death from anemia. The clinical features, the nonretractility of the blood clots, and the decreased number of platelets suggested the diagnosis of hemogenia. The bleeding time was not markedly changed. Payan thinks that diabetes in the father may have been responsible for the congenital debility of the liver and the disturbances of blood functioning in the daughter. There were also symptoms suggesting excessive ovarian and thyroid functioning. Extracts of different organs did not exert any action. Blood transfusions also failed to arrest the hemorrhagic tendency.

Comptes Rendus de la Société de Biologie, Paris

94: 1-96 (Jan. 15) 1926. Partial Index

*Restoration of Sight in Engrafted Eye. R. Matthey.—p. 4.
*Sensitization by the Skin. M. Golovanoff.—p. 6.
*Bile in Colon Bacillus Infection. M. Golovanoff.—p. 6.
*The Filtrable Tubercle Bacillus. T. Veber.—p. 8.
*Respiratory Ventilation in Children. Billard and Gourdon.—p. 12.
*Blood Groups and Interagglutination. N. du Bouchet.—p. 16.
*Arthus' Phenomenon from Diphtheria Anatoxin. Tzanck et al.—p. 17.
*Reticulo Endothelial Cells and Anaphylaxis. T. V. Simitch—p. 23.
Changes of Suprarenals in Typhoid S. Abramov and Lebel.—p. 25.
The Erythrocytes in Tetany and Rickets. S. Van Creveld.—p. 37.
Action of Sulphur on the Heart. J. Cluzet et al.—p. 51.
Action of Hyoscine in Parkinsonian Conditions. Froment et al.—p. 57.
Real and Apparent Pulmonary Ventilation. Mathieu et al.—p. 77.

Recuperation of Sight in Implanted Eye of Triton.—Matthey's experiments were made on eighty-six tritons by Koppanyi's technic. He removed an eyeball in one of these lizard-like amphibians and implanted it in another. The aspect of the implanted eye was absolutely normal in ten months in four instances. Then he repeated the procedure with the second eye. One triton died after the second operation; in three the sight was apparently recovered in both eyes. The recovery of vision was manifested in tests with a blind triton for the control. No changes were noted in the optic nerve.

Sensitization from Skin Dressings.—Golovanoff applied dressings with horse serum or white of egg to the eroded skin of guinea-pigs, and left them for twenty-four hours. Fourteen days later the animals were given an intravenous test injection. This was followed by a specific anaphylactic shock. Sensitization can thus be induced by a superficial dressing as well as by the subcutaneous route.

Rôle of Bile in Colon Bacillus Infection.—Rabbits were given bile by the mouth, and then inoculated intravenously with a nonlethal dose of cultures of colon bacilli. While the control animals bore the injection without harm, all those sensitized with bile died in one or two days. Golovanoff emphasizes that it may be possible to vaccinate the intestinal wall against colon bacilli by ingestion of colon bacillus cultures.

Filtrable Tubercle Bacilli in Fluid of Artificial Pneumothorax.—Veber's observation confirmed that common tubercle bacilli may disappear from the effusion with an artificial pneumothorax, after a few months. The same effusion, after filtering, induced tuberculous lesions of glands in guinea-pigs, without the presence of a primary inoculation lesion. Evidently the fluid contained invisible, filtrable forms of tubercle bacilli.

Pulmonary Ventilation in School Children.—Billard and Gourdon's investigation of 150 school children disclosed a close relation between the vital capacity and the size of the chest. Consequently the vital capacity may be estimated if the size of the chest is known. They found the respiratory capacity of a child equal to one fifth of the size of the thorax; while it is equal to one third at the age of 20, and to one sixth and still less in advanced age; one thirtieth in those with emphysema.

Identity of Blood Groups and Interagglutination.—Du Bouchet reports two cases in which the maternal blood and that of the new-born belonged to the same group. While the infant's serum did not agglutinate the erythrocytes of the mother, there was pronounced agglutination of the infant's erythrocytes by the maternal blood serum. This agglutination disappeared in one instance by the eleventh day. Agglutination tests should be applied to the maternal blood, if it is used for transfusions in infants soon after birth.

Arthus' Phenomenon After Injection of Diphtheria Anatoxin.—Tzanck and his co-workers describe a case in which diphtheria anatoxin was used as a prophylactic measure in the father, mother and two children. All were injected with 0.5 cc. of anatoxin, taken from one ampule. The injection was followed, the next day, by an intense local and general reaction in the mother alone. The general phenomena persisted for five days, the local over five weeks. The local reaction resembled Arthus' phenomenon; but without suppuration or necrosis. The patient never had had diphtheria, and never had been injected with diphtheria antitoxin or any antiserum. There was no history of urticaria, asthma or other colloidoclastic manifestation. Intracardiac injections of 1 cc. of the patient's serum or of diphtheria anatoxin did not induce any reaction in guinea-pigs. Injection of 0.5 cc. of the woman's blood serum and 0.5 cc. of anatoxin induced phenomena of passive anaphylaxis in the animals. No anaphylaxis occurred with similar injections of serum from the father.

The Reticulo-Endothelial System and Anaphylaxis.—The *functioning* of the reticulo-endothelial cell system was experimentally blocked in guinea-pigs with injections of iron oxide, india ink or splenectomy. Beef serum was injected the next day and again the twentieth day. All died from anaphylaxis, the same as the control animals. Simitch concludes that the reticulo-endothelial tissue does not seem to take part in anaphylactic shock.

Presse Médicale, Paris

34: 193-208 (Feb. 13) 1926

Intravenous Chemotherapy of Gonorrhea. Jausion and Vaucel.—p. 193.
Insulin in Treatment of Nondiabetic Malnutrition. R. Feissly.—p. 196.
Anastomosis at Lowest Point in Gastro-Enterostomy. G. Audain—p. 199.

34: 241-256 (Feb. 24) 1926

*Vaccination Against Tuberculosis. A. Calmette et al.—p. 241.
*Bone Surgery. R. Leriche and A. Policard.—p. 242.
*Peptone Shock and Vegetative Tonus. Garrelon and Santenoise.—p. 243.
The Fight Against Tuberculosis in Denmark and Its Results. Poix. —p 251.

Vaccination of the New-Born Against Tuberculosis.—This report brings down to date the experiences of which a summary was given in these columns, March 6, 1926, p. 724.

New Horizon for Bone Surgery.—Leriche and Policard remark that as it seems to be definitely established now that mechanical conditions play an important part in shaping the growing bone, it seems theoretically possible to influence the healing and reconstruction of bone tissue after operations, modeling it, as it were. Their research has demonstrated that bone repair requires an optimal circulation; too much is as injurious in one way as too little in another, especially in the formation of the callus and healing of implants. They have noted that periarterial sympathectomy seemed to restore the normal balance in the circulation of the bone and surrounding tissue, accelerating ossification.

Protein Shock and the Vegetative Tonus.—Garrelon and Santenoise injected dogs and rabbits intravenously with peptone, under anesthesia. The drop of the arterial pressure was the criterion for the shock, while the oculocardiac reflex indicated the parasympathetic tonus. In animals with a normal oculocardiac reflex, the injection was followed by a gradual and moderate decline of the arterial pressure (by 2 or 3 cm.). The decrease of the pressure was prompt and considerable in dogs with pronounced vagotonia. In dogs with hypovagotonia, the fall of the arterial pressure was slight and briefly transient. Stimulation of the vagus by *simultaneous injections of pilocarpine* and peptone induced a violent shock. The shock was intense, sometimes even fatal, after combined injection of eserin and peptone. The same was observed with insulin, freed from albumin. On the contrary the shock was nil or very mild in animals treated previously with atropine. Research was also made on the influence of shock on the vegetative tonus. It appeared that injections of peptone induce an immediate rise of the tonus, succeeded soon by hypovagotonia, and then again vagotonia. The first injection of peptone may not induce shock in cases with hypovagotonia; but by its inversion of the vegetative tonus the second injection brings the shock. Clinical results were identical with the experimental. The by-effects of injections of pneumococcus or streptococcus antiserum were predominant in mental patients with exaggerated vagal tonus as, for instance, maniacs or epileptics. The injections were well tolerated in patients with low tonus, as in dementia praecox. *The data presented all testify to the close connection* between the parasympathetic tonus and the susceptibility to shock.

34: 257-272 (Feb. 27) 1926

Results of Gastrectomy for Cancer. H. Hartmann.—p. 257.
*Adams-Stokes Syndrome. E. Géraudel and R. Giroux.—p. 258.
Broadcasting Auscultation Findings. R. Lutembacher.—p. 261.

Pathogenesis of Adams-Stokes Syndrome.—A somewhat similar article was summarized in The Journal, Feb. 20, 1926, p. 585.

Schweizerische medizinische Wochenschrift, Basel

56: 145-168 (Feb. 20) 1926

*Microscopy of the Sputum. E. Liebmann.—p. 145.
Blood After Radon Treatment of Cancer. A. Kotzareff.—p. 151.
Present Status of Vitamins. E. Fenner-Rhode.—p. 158.

Microscopy of the Sputum.—Liebmann regards microscopic examination of the sputum as a much neglected field. He prefers fixation of moist smears with methyl alcohol, and stains with a mixture of 15 parts of 1 per cent solution of thionin in methyl alcohol and 1 part of a similar solution of magdala red. An equal amount of water is added and the stain is left in contact with the smear for half an hour. The *neutrophil and eosinophil polymorphonuclears show* frequently a confluence of the nuclear segments, especially after addition of water, thus simulating myelocytes. A prevalence *of eosinophils is known in asthma. It announces the favorable* crisis in pneumonia, but has no prognostic significance in tuberculosis. The cells usually considered as alveolar epithelial cells are probably macrophages. They are normal constituents of the sputum, and are present also in the nose. The thick structure of their nucleus and the presence of nucleoli differentiate them from the monocytoid cells which appear only with affections of the alveoli, especially bronchopneumonia and pneumonia. They are evenly distributed over the field in these diseases. In pulmonary tuberculosis they occur in small heaps of four or ten or more elements. Cells with fatty granules are not a sign of tumor.

Clinica Medica Italiana, Milan

56: 291-384, 1925

Sydenham's Laudanum Should be Discarded. D. Lay.—p. 291.
*Changes in Alkaloids on Standing. E. Mura and E. Petiti.p. 298.
Desquamating Eruption from Arsphenamine. G. Cesana.—p. 305.
Catalytic Action of Antirabies Virus on Pancreatic Amylolysis. D. Larini.—p. 316.
Malta Fever Complicated with Tuberculosis. B. Maggesi.—p. 326.
*Leukopedesis Into the Stomach in Various Morbid Conditions. G. Mauro.—p. 339.
*Blood Pressure in Lead Poisoning. G. Invernizzi.—p. 347.
Latent Inflammation of Fissures of Lungs. C. Cantieri.—p. 378.

Changes in Alkaloids on Standing.—Mura and Petiti relate that of all the aqueous solutions of various alkaloids tested, quinine was the only one that seemed to be unmodified by the end of six months, responding the same as before to both chemical and biologic tests.

Leukopedesis into the Stomach in Various Morbid Conditions.—Mauro recalls that M. Ascoli and Moreschi called attention in 1901 to a proteolytic ferment in the leukocytes, but it is only recently that Loeper and Marchal have emphasized the importance of this as an element in gastric digestion. The leukocytes swarm into the stomach during digestion, and this endogastric leukopedesis is promoted by certain foods, and is inhibited by excessive acidity or gastritis, and certain other diseases. Mauro urges study of the import of these fluctuations for diagnosis and prognosis.

The Blood Pressure in Lead Poisoning.—Invernizzi has been investigating conditions as to the blood pressure in 369 cases of lead poisoning from 1910 to 1923. In acute lead poisoning and in acute exacerbations of chronic plumbism, *the blood pressure is very high, but the sudden drop as other* symptoms subside confirms the assumption of angiospasm as responsible for it. In other chronic forms of lead poisoning, *the pressure is low, as lead depresses the heart action.* After it has entailed arteriosclerosis, the systolic pressure is high, but the diastolic is low. This is explained by a reflex action from the influence of the lead on the splanchnic nerves and kidneys.

Pediatria, Naples

34: 169-224 (Feb. 15) 1926

Diagnosis of Scarlet Fever. L. Sabatini.—p. 169.
Chloroma. I. Nasso.—p. 180.
*The Kidneys in Tuberculous Children. L. Bonacorsi.—p. 187.
Infants' Vomiting. C. Gallo.—p. 197.

The Kidneys in Tuberculous Children.—Bonacorsi points to the frequency of toxic changes in the kidneys in tuberculous children. She found them in 6 per cent of the 300 children examined.

Policlinico, Rome

33: 221-254 (Feb. 15) 1926

Juvenile Progressive Paresis. P. Fornara.—p. 221.
*Febrile Tertiary Syphilis. A. Bacheca.—p. 226.
*Hyperpyrexia from Syphilitic Meningitis. G. Monateri.—p. 229.
The Gaté-Papacostas Test. G. Milani.—p. 232.
Wounds from Asses' Bites. D. Santorsola.—p. 234.
Periodic Medical Examination. A. Filippini.—p. 234.

33: 65-128 (Feb. 1) 1926. Medical Section

Spinal Cysticercus. P. Verga and A. Dazzi.—p. 65.
Gonorrhea in Little Girls. F. Ronchese.—p. 110.
Prevention and Treatment of Cancer. R. Marchesini.—p. 120.

Febrile Tertiary Syphilis.—Bacheca treated a young woman with fever, a chlorotic blood picture, and a tumor in the epigastrium. She recovered after antisyphilitic treatment. He quotes Boerhave's motto: *In dubiis suspice luem!* This applies especially to fever of doubtful origin.

Hyperpyrexia from Syphilitic Meningitis.—The extremely high temperature (42.4 C.) in Monateri's patient was probably due to syphilitic meningitis.

Riforma Medica, Naples

42: 145-168 (Feb. 15) 1926

*Glycemia and Diathermy of the Thyroid. M. Massa.—p. 145.
Suprahyoid Ranula. U. Beggiato.—p. 147.
Treatment of Cancer. N. Mori.—p. 151.
Amebic Cystitis. G. Fiorito.—p. 163.

Glycemia and Diathermy of the Thyroid.—Massa found constantly an increase in blood sugar in rabbits and man after diathermy of the thyroid region. The same procedure in exophthalmic goiter caused sometimes hyperglycemia, sometimes hypoglycemia—probably due to different (sympathicotonic and vagotonic) types of the disease.

Semana Médica, Buenos Aires

2: 1517-1584 (Dec. 17) 1925

Intravenous Treatment of Acute Rheumatism. L. Ymaz.—p. 1517.
Case of Sclerodermia with Sclerosis of the Fingers. J. L. Celasco. p. 1522.
*Autohemotherapy in Treatment of Asthma. C. G. Carranza and J. Orgaz.—p. 1527.
Autoplastic Reconstruction of Eyelid. A. D'Alessandro.—p. 1531.
Ideals of Welfare Work for Young Children. E. Foster.—p. 1534.
The Practice of Artificial Pneumothorax. A. Viton.—p. 1537. C'tn.
The Rôle of Silica in Growth of Plants. A. L. Herrera.—p. 1579.

Autohemotherapy in Asthma.—Carranza and Orgaz drew the patient's blood and reinjected 4 or 5 cc. subcutaneously in the arm or leg, gradually increasing to 8 or 10 cc. This attenuated or arrested the attack of asthma. The procedure is a kind of desensitization, and hence is applicable only to the anaphylaxis type of asthma. No effect was apparent in three of their thirteen cases; the failures were probably due to the secondary nature of the asthma. All the others were much improved or have been cured to date. From four to ten weekly injections were given; the ages ranged from 16 to 51.

Archiv für klinische Chirurgie, Berlin

139: 1-244 (Feb. 2) 1926

*Experimental Bronchial Asthma. W. Braeucker.—p. 1.
*Bacteriology of the Stomach. L. Bitter and W. Löhr.—p. 64.
Snapping Shoulder. Guleke.—p. 106.
*Roentgen Treatment of Tuberculosis. Siedamgrotzky.—p. 114.
*Anatomy of the Common Bile Duct. F. Fuchs.—p. 124.
*Viability of Transfused Erythrocytes. H. Wildegans.—p. 135.
Destruction of Lexer's Bolt. Fu-Yin Pan.—p. 191.
Benign Papillomas of the Stomach. F. Schulze.—p. 198.
Perforation of Gastric Ulcer. J. Vigyázó.—p. 204.
Nasopharyngeal Fibroma. Breitlander.—p. 211.
*Nerves of Arteries. L. Hirsch.—p. 225.
*Artificial Chyluria. C. Lagemann.—p. 240.
Melanoma of the Intestine. E. Peritz.—p. 242.

Experimental Bronchial Asthma.—Braeucker made a morphologic and experimental study of the nerves of the lungs in dogs. The pneumogastric contains not only vasoconstrictor but also vasodilator fibers. There is besides this in dogs a spinal bronchomotor innervation running over the vagosympathetic (not over the cardiac nerves). The pulmonary plexus consists of as many sympathetic fibers as of pneumogastric fibers. Only the fibers of the posterior bronchial branches transmit motor impulses to the finest bronchioli.

Bacteriology of the Stomach.—Bitter and Löhr investigated the germs in the stomach and duodenum in various diseases, especially with ulcer of the stomach and duodenum and carcinoma of the stomach. With normal acid secretion, they found the usual harmless gram-positive microbes in the stomach and duodenum. With lowered acidity, the colon flora ascends more and more proximad, and it invades the stomach in achylia.

Roentgen-Ray Treatment of Tuberculosis.—Siedamgrotzky concludes from 730 cases of surgical tuberculosis treated with the roentgen rays that it is best suitable for tuberculous lymphomas, spina ventosa and fistulas. The results in tuberculosis of large joints were not encouraging.

Anatomy of Common Bile Duct.—Fuchs shows that there is danger of injury of the pancreas as soon as a transduodenal choledochotomy is made farther than through the muscular layer. It is possible, although difficult, to reach the common bile duct back of the duodenum. He concludes that the standard procedure at Hochenegg's clinic is rational: The manipulations in the juxtaduodenal part of the bile duct are made either from a supraduodenal opening, or the last part of the duct is avoided by supraduodenal choledochoduodenoanastomosis.

Viability of Transfused Erythrocytes.—Wildegans concludes that the transfused erythrocytes live for several weeks. It is possible to check up microscopically for two weeks on erythrocytes transfused from a polycythemia patient to an anemic subject. The iso-agglutination tests did not yield dependable results in identification of the transfused cells.

Nerves of Arteries.—Hirsch concludes that there is no histologic basis for explanation of the results of so-called periarterial sympathectomy.

Artificial Chyluria.—The chyluria in Lagemann's case (a police officer) was probably due to introduction of milk into the bladder by the subject.

Deutsches Archiv für klinische Medizin, Leipzig

150: 251-314 (Feb.) 1926

*Central Stimulants of Metabolism. R. Schoen and N. Kaubisch.—p. 251.
*Aplastic Anemia. G. Denecke.—p. 266.
*Benzine Poisoning. N. Schustrow and E. Salistowskaja.—p. 271.
*Habituation to Benzine. Idem.—p. 277.
*Internal Treatment of Peptic Ulcer. U. Steinberg.—p. 285.
*Spasms and Pains in Gastric Ulcer. R. Cobet and K. Gutzeit.—p. 295.
*Hydrochloric Acid in Pernicious Anemia. G. Taubmann.—p. 309.

Central Stimulants of Metabolism.—Schoen and Kaubisch report experiments on healthy persons. They found an increase of the basal metabolic rate amounting to from 15 to 20 per cent after injections of caffeine and of compounds of the camphor group. The increase was still stronger after lobelin. The respiratory quotient increased after lobelin and strychnine.

Aplastic Anemia.—Denecke's patient developed grave anemia of the aplastic type with microcytes and megalocytes, but without increased bilirubin in the serum. The spleen and lymph nodes became enlarged. The histologic findings were those of lymphatic pseudoleukemia.

Benzine Poisoning.—Schustrow and Salistowskaja made experiments on inhalation of petroleum ether by rabbits or guinea-pigs. They found emaciation, aplastic hemolytic anemia, increased fragility of red cells and a leukopenia affecting all the white cells. They explain the poisoning by the action of the substance on the lipoids. The serum in the poisoned animals contained less cholesterol than in the controls. They believe that with inhalation, more erythrocytes are affected than with internal administration.

Habituation to Benzine.—Schustrow and Salistowskaja studied the increasing resistance to poisoning with petroleum ether. The time of appearance of convulsions and of restitution furnished the basis for comparison. The animals in the first week had convulsions within thirteen to fifteen minutes after the beginning of the inhalation, and required fifteen minutes for recovery. At the end of the second week, they were able to stand three or four times more of the benzine. The convulsions began in seventy to ninety minutes and the animals recuperated in one or two minutes. After an injection of 0.1-0.2 Gm. of lecithin in olive oil these animals became immediately as susceptible as unaccustomed animals. They conclude that the resistance is due simply to the loss of fat in the poisoned animals and consequently a diminished absorption by the blood. The administration of fat seems to be contraindicated during chronic exposure to benzine, but would seem advantageous in treatment. They mention Nick's patient who recovered after intravenous injection of 5 cc. of a 10 per cent lecithin emulsion in spite of poisoning with 88 Gm. of benzene.

Internal Treatment of Peptic Ulcer.—Steinberg reports fine results of treatment of ulcers of the stomach and duodenum with silver nitrate. He administers three or four times daily 1 tablespoonful of a solution of 0.25 up to 0.4 Gm. of silver nitrate in 120 cc. of water before meals.

Spasms and Pains in Gastric Ulcer.—Cobet and Gutzeit failed in their attempts to cause pains in gastric ulcer patients by chemical (acid) or electrical stimuli. They conclude that hyperacidity alone cannot account for the pains and spasms in such patients.

Hydrochloric Acid in Pernicious Anemia.—Taubmann reports a case with almost every symptom of pernicious anemia, but with free hydrochloric acid in the stomach. In spite of this, the duodenum contains colon bacilli.

Deutsche medizinische Wochenschrift, Berlin

52: 267-306 (Feb. 12) 1926

*Laryngeal Diphtheria. J. v. Bókay.—p. 267.
*Bilirubin and Gastric Secretion. W. Arnoldi and Schechter.—p. 270.
*Combination of Insulin and Dextrose. K. Grunenberg.—p. 271.
*Bronchopneumonia in Infants. R. Hamburger.—p. 274.
Sthenic Diabetic Coma. I. St. Lorant.—p. 275. C'cn.
*Monocytic Angina. S. Kwasniewski and N. Henning.—p. 277.
*Metabolism of Erythrocytes in Anemia. G. Denecke.—p. 280.
Fractures of the Elbow. M. Borchardt.—p. 280.
Treatment of Fistulas. R. Mühsam.—p. 281.
Fat Embolism. F. Landois.—p. 283.
Leg Ulcer. K. Specht.—p. 285.
Brain Tumor and Accident. R. Sonntag.—p. 288.
Chemotherapy. R. Schnitzer.—p. 289. C'cn.
The Prussian Tuberculosis Law. P. Konitzer.—p. 291.
Dentists and Technicians. Dieck.—p. 293.

Laryngeal Diphtheria.—Bókay intubates even in infants, but controls them daily to detect injury from pressure. He had a mortality of 49 per cent among 102 children under the age of 2 treated by tracheotomy when the intubation had failed.

Serum Bilirubin in Secretory Disturbances of the Stomach.—Arnoldi and Schechter estimated the blood bilirubin content with Meulengracht's nonspecific method. It was near the lower limits of normal in hyperacidacity and near the upper limits in subacity and achylia. They believe that this is due to increased liver function with rapid transformation of indirect bilirubin into the direct form (van den Bergh) in hyperacidity, and lowered liver function in achylia.

Combination of Insulin and Dextrose.—Grunenberg had excellent results in diseases of the pancreas and liver (including jaundice), with daily injection of 10 units of insulin followed by 40 Gm. of dextrose (in injection, by the mouth, or by enema).

Bronchopneumonia in Infants.—Hamburger prefers the carrying around of children to their complete rest in bed. Cold air and sedatives as well as arteriotomy improve the prognosis in infants and small children.

Monocytic Angina.—Kwasniewski and Henning report eight cases of monocytic angina. The generalized affection of the lymphatic apparatus may occur without the tonsillitis, which suggests a common origin for both.

Metabolism of Erythrocytes in Anemia.—Denecke found an increase in acidity of the anemic blood in standing. He believes that it is not due to glycolysis, although the latter may take place. He thinks that it is connected with the production of carbon dioxide and diffusion of the chlorine ions into the erythrocytes.

Klinische Wochenschrift, Berlin

5: 249-296 (Feb. 12) 1926

The Vagus Heart. W. Frey.—p. 249.
*Blood Cholesterol and the Liver. Thannhauser and Schaber.—p. 252.
*Carbohydrates Plus Insulin in Coma. E. Bucka.—p. 254.
*Oxaluria. F. Piccininni and E. Lombardi.—p. 260.
*Hemoglobinuria in Arsphenamine-Bismuth Treatment. F. Munter and H. Steinitz.—p. 263.
*Serology of Syphilis. A. Klopstock and A. Hilpert.—p. 265.
Homoioplastic Ovarian Graft. P. Sippel.—p. 269.
Roentgen Teleangiectasia. M. Jessner.—p. 270.
The "Eidetic Faculty in the Young." Leven.—p. 271.
"Modified Abderhalden Test." Lüttge and v. Mertz.—p. 271.
Reply. E. Herzfeld et al.—p. 272.
Spontaneous Encephalitis in Animals. F. H. Lewy et al.—p. 272.
Time Reenforcing the Action of Drugs. T. Gordonoff.—p. 273.
Spontaneous Pneumothorax. H. Dorendorf.—p. 274. C'cn.
Static Innervation. E. A. Spiegel.—p. 277.
Puncture and Transfusion Apparatus. E. Marr.—p. 294.

Blood Cholesterol and the Liver.—Thannhauser and Schaber observed a lowered cholesterol-ester: cholesterol ratio in the blood and serum from patients with parenchymatous disturbances of the liver. They believe that it is due to an injury of the liver ferment which normally splits the cholesterol esters (only free cholesterol is excreted by the bile). Similar observations, with a different explanation, had been made by Bürger before.

Carbohydrates Plus Insulin in Coma.—Bucka concludes that in cases of deep coma, insulin alone is indicated. This applies also to beginning coma being treated at a clinic with facilities for continuous control of the blood sugar. In the precoma stage, the dosage of insulin is difficult, and she recommends addition of sugar.

Oxaluria.—Piccininni and Lombardi confirm Sandro's observation on a colon bacillus strain which occurs in the feces of subjects with oxaluria, and produces in the first passage (and especially in symbiosis with *Bacillus subtilis*) oxalic acid. It caused oxaluria in healthy subjects when administered in capsules.

Hemoglobinuria in Arsphenamine-Bismuth Treatment.—Munter and Steinitz observed hemoglobinuria and later nephritis in a young syphilitic man treated with neo-arsphenamine and bismuth. General muscular spasms, resembling those of the Haff disease, were present. The patient died from uremia. The blood pressure remained only at the upper limits of the normal range.

Serology of Syphilis.—Klopstock and Hilpert demonstrate that the coincidence of positive results with several methods is much greater in subjects with a history of syphilis than in others.

Medizinische Klinik, Berlin

22: 239-278 (Feb. 12) 1926

Dyspnea. Goldscheider et al.—p. 239. C'td.
Roentgen Diagnosis of the Epigastrium. K. Gutzeit.—p. 242.
Psychopathic Children. Mönkemöller.—p. 244. C'cn.
Insulin Treatment of Exophthalmic Goiter. O. Klein.—p. 248.
Brain Injury by Lightning. G. Herrmann.—p. 248.
Explosion from High Frequency Current. S. Jellinek.—p. 249.
*Gonorrhea in Men. L. Balog.—p. 250.
Syphilis of the Stomach. B. Cohn.—p. 253.
Intravenous Infusion by the Practitioner. H. Kritzler.—p. 256.
*Pancreas Function Test. C. Papp.—p. 257.
Economy and Retiring Fund. E. Stier.—p. 259.
Cancer and Its Treatment. O. Strauss.—p. 263. C'td.
Syphilis. F. Pinkus.—p. 266.

Gonorrhea in Men.—Balog pleads for better knowledge of Picker's research. The latter considers gonorrhea as a general disease affecting in men chiefly the glands of the urogenital tract (Littré's, seminal vesicles, prostate). His treatment consists in lavage and bimanual expression of the contents of the prostate and the seminal vesicles, the patient in the erect position and with his bladder filled.

Pancreas Function Test.—Papp publishes the details of Carpi's method of estimation of the trypsin content of the duodenal fluid or the feces. Gelatin is the medium used, and sodium fluoride serves to inhibit growth of germs. Blood inhibits the action of trypsin, pus stimulates it.

Monatsschrift für Geb. und Gynäkologie, Berlin

72: 129-258 (Feb.) 1926

*Deflexion Presentations. H. Kamniker.—p. 129.
Adnexitis and Appendicitis. G. H. Schneider.—p. 142.
Manual Removal of the Placenta. H. Montag.—p. 150.
Cleidocranial Dysostosis. W. Nettesheim.—p. 159.
*Ectopic Pregnancy. L. Zeitlin.—p. 168.
Bardenheuer's Incision. E. Martin.—p. 183.
*Resuscitation of the New-Born. S. von Wachenfeldt.—p. 185.
Phocomelia. C. Doerffer.—p. 195.
*Vaginal Bacteria and the Puerperium. H. von Broich.—p. 199.
*The Menstrual Poison Question. G. Schubert and O. Steuding.—p. 201.
Injuries of Sex Organs. W. Raaflaub.—p. 206.
Pyelitis. E. Puppel.—p. 224.

Deflexion Presentations.—Kamniker recommends conservative treatment in all deflexion presentations. Among 147 cases of Peham's clinic, 98 per cent of the face presentations, 51.5 per cent of the sinciput and 46 per cent of the forehead presentations were delivered without any intervention, except sometimes rupture of the bag of waters and episiotomy.

Exploratory Puncture of Rectovaginal Pouch in Ectopic Pregnancy.—Zeitlin warns against basing the diagnosis exclusively on the result of the puncture. Yet it is useful if pus or micro-organisms are discovered, since a laparotomy is dangerous in such cases. The puncture is harmless, if made in the middle line of the posterior vaginal wall and if it is not attempted in a state of severe shock.

Resuscitation of the New-Born.—Wachenfeldt had perfect results with intracardiac injection of 0.5 and 1 cc. of epinephrine (1:1,000) in two apparently stillborn children.

Vaginal Bacteria and the Puerperium.—Broich finds that the degree of bacteriological purity is in no relation to the puerperal morbidity of pluriparas. In primiparas, a low degree of bacteriologic purity usually entails a mild infection characterized by the fetid odor of the lochia.

The Menstrual Poison Question.—Schubert and Steuding repeated Schick's experiments on the alleged menstrual poison, and added certain others. They found no indications of its presence.

Monatsschrift für Kinderheilkunde, Leipzig

31: 491-586 (Feb.) 1926

*Reaction Time in Infants. A. Peiper.—p. 491.
Trypsin in Rickets. J. von Lukács.—p. 507.
Treatment of Chorea. J. Duzár.—p. 520.
Koplik's Spots. G. Petényi.—p. 533.
Insulin Treatment of Children Out-Patients. A. Heimann-Trosin and H. Hirsch-Kauffmann.—p. 536.
*Treatment of Tuberculous Meningitis. K. Klinke.—p. 539.
*Vasomotors in Measles and the Pirquet Test. I. Kollár.—p. 542.
Gland Fever. F. Mündel and J. Franz.—p. 545.
Thick Feedings in Pylorospasm. C. Stamm and O. Herz.—p. 553.

Reaction Time in Infants.—Peiper measured the time between an auditory stimulus and the motor reaction thereto in infants. It was about a quarter of a second in infants from 2 to 4 months of age. The average variation was 0.068 seconds. The reaction time of sleeping infants is longer—up to a few seconds.

Treatment of Tuberculous Meningitis—Klinke tried Sharp's method (intraspinal insufflation of oxygen) in six children with tuberculous meningitis All of them died

Vasomotors in Measles and Pirquet Test—Kollar observed a diminished skin reaction to mechanical stimuli (red dermography) in measles during the period of tuberculin anergy She concludes that this is another indication of the significance of the vasomotors *for the tuberculin skin test*

Wiener Archiv fur innere Medizin, Vienna

12 169 384 (Feb 10) 1926

*Respiratory Metabolism H Pollitzer and E Stolz—p 169
Calcium in Blood and Cerebrospinal Fluid F Depisch—p 189
*Angina Pectoris R Singer—p 193 Comment Rothberger—p 209
Arteritis and Phlebitis Obliterans S Cserna—p 213
*New Blood Constituent A Leimdorfer—p 227
Shape of Erythrocyte J v Boros—p 243
*Hemolytic Jaundice J v Boros—p 255
*Arthritis in Psoriasis J Morgenstern—p 273
*'Aseptic' Epidemic Meningitis A Wallgren—p 297
Acute Leukemia O A Rosler—p 313
Bundle Block D Scherf—p 327
Polymyositis L Schill—p 353
*The Phthisic Habitus A V Frisch and K P Eiselsberg—p 361

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Hemolytic Jaundice—Boros confirms the small diameter and relatively normal volume of the erythrocytes in hemolytic jaundice This seeming microcytosis disappears after splenectomy, although the fragility remains high He believes that the change of shape is only a secondary symptom of regeneration, and that it occurs in anemias of other origin

Arthritis in Psoriasis—Morgenstern believes that psoriasis is a general affection of the body The arthropathies which occur with it would correspond to a secondary or tertiary stage The diagnosis is made by the parallelism between the manifestations on the skin and in the joints and by exclusion of arthritis of other origin

"Aseptic" Epidemic Meningitis—Wallgren describes a poradic form of acute meningitis The clinical symptoms re typical, the prognosis is good, the disease lasts only a few days The cerebrospinal fluid contains lymphocytes and is sterile

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Wiener klinische Wochenschrift, Vienna

39 177 204 (Feb 11) 1926

Immunology and Epidemiology W Bohme—p 177 Ctd
*The Nose L Hofbauer—p 180
Syphilitic Infiltration of Stomach I Eisenklam—p 182
Spontaneous Recovery from Pancreas Necrosis I Meisescu—p 185
*Fourth Disease K Hochsinger—p 186 Cen
Rustless Steel G Schipringer—p 188
*Anesthesia in Small Children I Kazda—p 189
*Treatment of Squint J Meller—p 190
Treatment of Neuralgia S Erben—p 191
Hormone Therapy in Gynecology and Obstetrics I Herrmann Supplement Pp 1 16

The Nose—Hofbauer reviews the experimental evidence on the passage of air through the nose Under normal conditions, only the upper part of the nose—not the broad base—is used for it This is due to the fact that the nostrils are horizontal, so that the air has to ascend vertically The *absence of the external nose (war wounds)* causes respiratory disturbances due to the direct impact of the current of air

Fourth Disease.—Hochsinger is convinced that the "fourth disease" (Filatow-Dukes) exists as a clinical entity He differentiates it from German measles by the *scarlatiniform* rash, and from scarlet fever especially by the absence of subsequent desquamation He suggests the name "scarlatinella

Treatment of Squint.—Meller emphasizes the fact that concomitant strabismus begins only intermittently at the age of 3 or 4, when the child begins fixation of small objects close to his eyes The physician discovers it when holding a piece of paper in front of one eye and asking the child to look with the other eye at an object close to the eye Conservative measures can succeed only if treatment starts immediately It consists in atropinization of the eyes, and exact correction *of the refraction anomaly* ' *If the squint is of longer standing*, the atropine treatment has to be kept up for a longer period Besides this, it is necessary to train the weaker eye, to avoid amblyopia This is accomplished with a small black disk fitting tightly to the orbit of the healthy eye This special monocular goggles should be worn for several hours daily As long as there is hope for success with conservative measures surgical intervention can be only injurious Even if the treatment fails, he advises against intervention before *the twelfth to the fourteenth year The squint may disappear* spontaneously, and it is preferable to defer surgery until the child is intelligent enough to submit to local anesthesia No dosage of the degree of intervention required is possible under general anesthesia

Zeitschrift fur Geb. und Gynakologie, Stuttgart

89: 497 709 (Feb 15) 1926

Cells of the Endometrium E Terruhn—p 497
*Dyspareunia in Pregnancy J S Galant—p 509
Glycogen in Vaginal Epithelium E Schwab—p 510
Quadruplets E Hafeli—p 519
*Lutein Cells and Chorio-Epithelioma K Herold—p 561
Blood Transfusion in Gynecology H Schultheiss—p 570
Congenital Ichthyosis E Heinrichsbauer—p 597
**Placenta Praevia* *H* Wagner—p *605*
Etiology of Rupture of the Uterus H Kurtz—p 615
Eclampsia E Westphal—p 626
Thyroid Tissue Tumor in the Ovary T Matasse—p 638
Abdominal Pregnancy E Schoenholz—p 652
The Dilatation Period B Aschner—p 710

Dyspareunia in Pregnancy—Galant rejects dyspareunia as a cause of sterility Contrary to this he thinks that the frequency of dyspareunia in sterility is a sequel or a coordinated phenomenon He found regularly a lowering of the libido during pregnancy, and its disappearance after the sixth month This may be due chiefly to the absence of the uterine part of the orgasm, but it is also due to some extent to mental causes (anxiety not to injure the fetus)

Lutein Cells and Chorio-Epithelioma.—Herold's patient had a malignant chorio-epithelioma It retrogressed after ovariectomy, which revealed a strong proliferation of lutein cells

Placenta Praevia—Wagner reviews the 172 cases of placenta praevia observed in Benckiser's clinic from 1893 to 1923 among 19,027 childbirths The results have improved since transperitoneal cesarean section became the method of choice

Zeitschrift fur klinische Medizin, Berlin

102: 649 807 (Feb 6) 1926

*The Hemorrhagic Diathesis E Leschke and L Wittkower—p 649
*Intracutaneous Injection F Hoff—p 745
Vagotonia and Sympathicotonia I Gelmann—p 768
Achondroplasia and Endocrines D M Rossisky—p 783
Gastroscopy W Sternberg—p 796

The Hemorrhagic Diathesis—Leschke and Wittkower publish an extensive survey on the pathogenesis and clinical aspects of thrombopenic purpura

Intracutaneous Injection—Hoff finds that the explanation of leukopenia following intracutaneous injections is due to the vagotonic increase of the leukocytes in the liver, is not proven Yet he admits the significance of the vegetative nervous system for it

Zeitschrift für Krebsforschung, Berlin.

23: 2-88 (Feb. 1) 1926

*Food and Growth of Cancer. F. Ludwig.—p. 2.
Anaphylaxis in Autohemotherapy of Cancer. Zerner.—p. 9.
*Tissue Cultures and Oxygen. A. Fischer and E. B. Andersen.—p. 12.
*Cancer Growth and the Endocrines. H. Elsner.—p. 28.
High Local Cancer Rate. Himburg.—p. 45.
Cancer Necropsy Statistics. W. Janusz.—p. 47.
Multiple Carcinomas. H. Siebke.—p. 66.
Cytolytic Action of Selenium. A. H. Roffo and L. M. Correa.—p. 82.

Food and Growth of Cancer.—Ludwig fed sixty mice with a diet free from vitamins for twelve days before and after inoculation of carcinoma. The cancer did not take in any of them. The vitamin-free food had no effect when given after the appearance of cancer. The results were similar, although not so perfect (35.7 per cent protection), in fourteen rats inoculated with a sarcoma after fifty to sixty days of a diet free from vitamins.

Tissue Cultures and Oxygen.—Fischer and Andersen found that a higher oxygen pressure killed cultures of Rous' chicken sarcoma faster than cultures of fibroblasts. With suitable doses, pure cultures of fibroblasts were obtained from cultures mixed with sarcoma. They discuss the therapeutic possibilities.

Cancer Growth and the Endocrines.—The inoculated tumors seemed to be inhibited in their growth, in Elsner's experiments, by injections of a testis extract and—to a less extent—by a pituitary extract. A pituitary extract from another manufacturer seemed to enhance the growth. He is pessimistic as to the outlook for organotherapy in cancer.

Zeitschrift für Tuberkulose, Leipzig

44: 273-352 (Feb.) 1926

*Tuberculosis in Tobacco Workers. E. von Müller and Berghaus.—p. 273.
Therapeutic Paralysis of the Diaphragm. E. Gergely.—p. 285.
*Sanocrysin in Experimental Tuberculosis. O. Bang.—p. 298.
Mixed Infection in Tuberculosis. J. Abakelia.—p. 306.
Petruschky's Sanitation Experiment. E. Effler.—p. 315.
Antiformin Enrichment Method. W. Mueller.—p. 318.
*The Mátéfy Test. H. Rosenhagen.—p. 321.
Psychotherapy in Tuberculosis. J. Kollarits.—p. 324.

Tuberculosis in Tobacco Workers.—Müller and Berghaus were delegated to study the cause of the high tuberculosis mortality in a rural district near Mannheim. It seemed at first that work in tobacco factories is to be incriminated. Yet they found that these workers are weak before they start working there, the strong ones preferring better paid occupations. The infection in the plant is certainly possible, but it seemed that infection in the home was a more important factor. The hygienic conditions in the homes of most of the patients were horrible.

Sanocrysin in Experimental Tuberculosis.—Bang tested the action of Sanocrysin in vitro and in vivo. Five bovine and three human strains of tubercle bacilli grew in a concentration of 1:5,000 Sanocrysin, although Møllgaard claims that it inhibits their growth in a concentration of 1:100,000. Møllgaard's cultures used for infection of animals were of an abnormally low virulence. When using fresh cultures or pus from spontaneous tuberculosis of cattle, Bang never obtained any curative action from Sanocrysin.

The Mâtêfy Test.—Rosenhagen found that the Mátéfy test has no practical value in pulmonary tuberculosis.

Zentralblatt für Chirurgie, Leipzig

53: 385-448 (Feb. 13) 1926

Central Fibromas of the Jaws? A. Krogius.—p. 386.
Fractures of Malleoli. K. Ludloff.—p. 390.
Prosthesis of Thigh. Zur Verth.—p. 392.
Intravenous Infusion of Camphor. G. Hosemann.—p. 394.
*Fat Embolism After Bone Surgery. M. Schwamm.—p. 395.
Stenosis of Pylorus from Hydrochloric Acid. H. Oeding.—p. 397.
Drainage of Clean Wounds. S. Ligin.—p. 398.
The Surgery of the Golden Age in Spain. F. Lejeune.—p. 400.

Fat Embolism After Bone Surgery.—Schwamm explains the fat embolism after orthopedic interventions on children—as previously reported here—by pointing out that all these patients had been operated on before, and had been kept in plaster casts for a long period. He emphasizes that Lorenz' clinic tries to avoid redressment operations on such children for several months after the removal of the cast. The same applies to children after poliomyelitis, who had not been walking. The fatty degeneration of the bone marrow predisposes them to fat embolism. Dieting, light, cautious (!) massage and passive movements should always precede surgery on such children.

Zentralblatt für Gynäkologie, Leipzig

50: 385-448 (Feb. 13) 1926

Basal Metabolism in Dysmenorrhea. A. Heyn.—p. 386.
Medical Publications. M. Henkel.—p. 391.
High Forceps and Cesarean Section. A. Calmann.—p. 393.
*_Rupture in Scar from Cesarean Section. P. Steinberg.—p. 396._
*Gonorrhea of Eye After Cesarean Section. H. O. Neumann.—p. 400.
Cesarean Section with Vulvar Edema. H. Gertler.—p. 403.
*Cesarean Section with Vulvar Eczema. W. Liepmann.—p. 405.
Exohysteropexis. F. J. Melhuba.—p. 406.
*Cesarean Section After Death. E. Noltmann.—p. 408.
Delivery After Death. H. Hellendall.—p. 412.
Cesarean Section in Eclampsia. S. Liebmann.—p. 414.

Rupture in Scar from Cesarean Section.—Steinberg concludes from his case that a *second cesarean section should* be done at the latest at the beginning of labor pains.

Gonorrhea of Eye After Cesarean Section.—Neumann delivered the infant by a cesarean section. In spite of this a gonococcal conjunctivitis developed on the second day. He attributes it to the early bursting of the bag of waters.

Cesarean Section in Eczema.—Liepmann regards eczema of the vulva, containing streptococci, as an indication for abdominal cesarean section. In his case a placenta praevia furnished an additional indication.

Cesarean Section After Death.—Noltmann made a cesarean section six minutes after death of the mother from pulmonary embolism. The child was asphyxiated, but survived. He made another cesarean section on a woman with mitral stenosis and beginning pulmonary edema, under lumbar anesthesia, and in the sitting position. The child was living and the mother improved rapidly.

Vestnik Microbiologii i Epidemiologii, Saratov

4: 3-141, 1925. Partial Index

*The Dick Test in Scarlet Fever. M. Izabolinsky and J. Lipkin.—p. 3.
Plague Bacilli Do Not Survive in the Fur of Siberian Marmots. N. Gaisky.—p. 15.
Stain for Blood and Blood Parasites. K. Plavtoff.—p. 119.

The Dick Test in Scarlet Fever.—Izabolinsky and Lipkin made their research with toxin obtained from seven strains of streptococci found in the throat of scarlet fever patients. They used also three strains from cultures of pus from postscarlatinal otitis, and a culture of streptococci from empyema. The streptococci were isolated from patients with prolonged forms of scarlet fever as well as from those with the fulminating form. Among the different species, there was also the diplococcus streptococcus, the frequent presence of which in scarlet fever was emphasized by Gabritchevsky. Certain streptococci were hemolytic; others were not. Dextrose agar and Martin's bouillon were used for the cultures; the latter were kept in the thermostat for six days and then passed through a Chamberland filter. It was established that intradermal injection of 0.1 cc. of the toxin, diluted 1:2,000, *is able to induce redness and infiltration at the point of* injection. Of 430 reactions only 390 could be observed within twenty-four hours. Redness started after six hours; reached the maximum after twenty-four hours, and disappeared in from thirty-six to forty-eight hours. In order to avert pseudoreactions, a simultaneous injection was made on the other arm with this toxin heated to 95 C. for an hour. From 70 to 76.2 per cent of positive tests were noted below the age of 15; 53.1 per cent between 15 and 25, and 33.3 per cent after 25. The reaction was positive in 22.5 per cent of forty subjects with a scarlet fever history. The results were identical with the toxin heated to 55 C. for thirty minutes. It is possible that while the toxic form of scarlet fever entails immunity, there is no immunity with the localized form (predominant lesions in the nose and throat) or the exanthematous. This may possibly explain the positive Dick tests after scarlet fever.

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Wiener Archiv für innere Medizin, Vienna

12: 169-384 (Feb. 10) 1926

*Respiratory Metabolism. H. Pollitzer and E. Stolz.—p. 169.
Calcium in Blood and Cerebrospinal Fluid. F. Depisch.—p. 189.
*Angina Pectoris. R. Singer.—p. 193. Comment. Rothberger.—p. 209.
Arteritis and Plebitis Obliterans. S. Cserna.—p. 213.
*New Blood Constituent. A. Leimdorfer.—p. 227.
Shape of Erythrocytes. J. v. Boros.—p. 243.
*Hemolytic Jaundice. J. v. Boros.—p. 255.
*Arthritis in Psoriasis. J. Morgenstern.—p. 273.
*"Aseptic" Epidemic Meningitis. A. Wallgren.—p. 297.
Acute Leukemia. O. A. Rösler.—p. 313.
Bundle Block. D. Scherf.—p. 327.
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*The Phthisic Habitus. A. V. Frisch and K. P. Eiselsberg.—p. 361.

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Wiener klinische Wochenschrift, Vienna

39: 177-204 (Feb. 11) 1926

Immunology and Epidemiology. W. Böhme.—p. 177. C'td.
*The Nose. L. Hofbauer.—p. 180.
Syphilitic Infiltration of Stomach. I. Eisenklam.—p. 182.
Spontaneous Recovery from Pancreas Necrosis. T. Moisescu.—p. 185.
*Fourth Disease. K. Hochsinger.—p. 186. C'cn.
Rustless Steel. G. Schapringer.—p. 188.
"Anesthesia in Small Children." F. Kazda.—p. 189.
*Treatment of Squint. J. Meller.—p. 190.
Treatment of Neuralgia. S. Erben.—p. 191.
Hormone Therapy in Gynecology and Obstetrics. E. Herrmann. Supplement. Pp. 1-16.

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Zeitschrift für Geb. und Gynäkologie, Stuttgart

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Zeitschrift für klinische Medizin, Berlin

102: 649-807 (Feb. 6) 1926

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Vestnik Microbiologii i Epidemiologii, Saratov

4: 3-141, 1925. Partial Index

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Treatment of Tuberculous Meningitis.—Klinke tried Sharp's method (intraspinal insufflation of oxygen) in six children with tuberculous meningitis. All of them died.

Vasomotors in Measles and Pirquet Test.—Kollár observed a diminished skin reaction to mechanical stimuli (red dermography) in measles during the period of tuberculin anergy. She concludes that this is another indication of the significance of the vasomotors for the tuberculin skin test.

Wiener Archiv für innere Medizin, Vienna

12: 169-384 (Feb. 10) 1926

*Respiratory Metabolism. H. Pollitzer and E. Stolz.—p. 169.
Calcium in Blood and Cerebrospinal Fluid. F. Depisch.—p. 189.
*Angina Pectoris. R. Singer.—p. 193. Comment. Rothberger.—p. 209.
Arteritis and Plebitis Obliterans. S. Cserna.—p. 213.
*New Blood Constituent. A. Leimdorfer.—p. 227.
Shape of Erythrocytes. J. v. Boros.—p. 243.
*Hemolytic Jaundice. J. v. Boros.—p. 255.
*Arthritis in Psoriasis. J. Morgenstern.—p. 273.
*"Aseptic" Epidemic Meningitis. A. Wallgren.—p. 297.
Acute Leukemia. O. A. Rösler.—p. 313.
Bundle Block. D. Scherf.—p. 327.
Polymyositis. E. Schill.—p. 353.
*The Phthisic Habitus. A. V. Frisch and K. P. Eiselsberg.—p. 361.

Respiratory Metabolism.—Pollitzer and Stolz found at night a lowering of the specific dynamic action of ingested and injected proteins. They recommend therefore to administer injections of tuberculin in the evening (to avoid fever), and injections intended to provoke fever, in the morning. It is possible that work or eating at night is an overlooked pathogenic factor.

Pathogenesis of Angina Pectoris.—Singer concludes from his experiments on dogs that ischemia of the heart muscle does not cause pains. The epicardium, pericardium, aorta and coronary arteries are sensitive. Ligation of the latter hurts only if the adventitia is preserved.

New Blood Constituent.—Leimdörfer gives the details of his isolation and estimation of the compound he found in erythrocytes. It is a basic substance, giving the diazo reaction, but it is not identical with the compound responsible for the diazo reaction in the urine. Except for recent syphilis and certain cases of fever, it was most extraordinarily increased in tuberculosis.

Hemolytic Jaundice.—Boros confirms the small diameter and relatively normal volume of the erythrocytes in hemolytic jaundice. This seeming microcytosis disappears after splenectomy, although the fragility remains high. He believes that the change of shape is only a secondary symptom of regeneration, and that it occurs in anemias of other origin.

Arthritis in Psoriasis.—Morgenstern believes that psoriasis is a general affection of the body. The arthropathies which occur with it would correspond to a secondary or tertiary stage. The diagnosis is made by the parallelism between the manifestations on the skin and in the joints, and by exclusion of arthritis of other origin.

"Aseptic" Epidemic Meningitis.—Wallgren describes a sporadic form of acute meningitis. The clinical symptoms are typical; the prognosis is good; the disease lasts only a few days. The cerebrospinal fluid contains lymphocytes and is sterile.

The Phthisic Habitus.—Frisch and Eiselsberg deny any predisposing influence from "habitus phthisicus." It is rather a sequel of tuberculosis. Even here it occurs usually with the mild forms, not with the destructive "phthisis."

Wiener klinische Wochenschrift, Vienna

39: 177-204 (Feb. 11) 1926

Immunology and Epidemiology. W. Böhme.—p. 177. C'td.
*The Nose. L. Hofbauer.—p. 180.
Syphilitic Infiltration of Stomach. I. Eisenklam.—p. 182.
Spontaneous Recovery from Pancreas Necrosis. T. Moisescu.—p. 185.
*Fourth Disease. K. Hochsinger.—p. 186. C'cn.
Rustless Steel. G. Schapringer.—p. 188.
"Anesthesia in Small Children." F. Kazda.—p. 189.
*Treatment of Squint. J. Meller.—p. 190.
Treatment of Neuralgia. S. Erben.—p. 191.
Hormone Therapy in Gynecology and Obstetrics. E. Herrmann. Supplement. Pp. 1-16.

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Finska Läkaresällskapets Handlingar, Helsingfors

68: 1-86 (Jan.) 1926

*The Roentgen Findings with Duodenal Ulcer. G. Jansson.—p. 10.
*Mechanism of Invagination of the Intestine. J. Heinonen.—p. 23.
*Syphilitic Temporomaxillary Arthritis. Baltscheffsky.—p. 38.
*Production of Carbon During Fasting. E. Adlercreutz.—p. 43.
Lambliasis with Pernicious Anemia. M. Savolin.—p. 53.
Insulin Made in Finland. T. W. Tallqvist.—p. 60.

The Roentgen-Ray Findings with Duodenal Ulcer.—Jansson drew the correct diagnostic conclusions from the niche, the filling defect, the retraction or the diverticulum in 70 per cent of his twenty-six operative cases; in half of the others his presumptive diagnosis was confirmed later. In the others the ulcer was in the pylorus region. Nine roentgenograms are reproduced.

Invagination of the Intestine.—Heinonen concludes that even a minute submucous tumor may induce stenosis, with or without spasm, and the bowel below this point atrophies and stretches. The bowel above slides into this gaping segment.

Syphilitic Arthritis of the Temporomaxillary Articulation.—The man had acquired syphilis seventeen years before the pains and swelling developed in the lower jaw, in five months gradually involving the temporal region, with severe pains in cheek and temples and trismus. A complete cure of the arthritis was realized in less than three weeks under iodide and neo-arsphenamine.

The Metabolism During Fasting.—Adlercreutz confirms the remarkable drop in the total metabolism even on the first day or so of fasting. It is especially noticeable in the production of carbon.

Hospitalstidende, Copenhagen

69: 1-28 (Jan. 6) 1926

*Kidney Function Tests. E. Busch.—p. 1.

Comparison of Kidney Function Tests.—Busch gives charts from twenty-five patients who had all had acute nephritis at some time and who recently had had seven different kinds of tests applied parallel. The findings in regard to Addis' "ratio," the diuresis during the three "ratio" hours, the urea content of the blood, and phenolsulphonphthalein elimination all fluctuated parallel to each other to a certain extent, while the responses to the thiosulphate test, Strauss' water test and the uric acid in the blood were more erratic. The phenolsulphonphthalein test is not very sensitive; normal findings were obtained in over 50 per cent of the cases. The Addis ratio test is the most sensitive of all, but it takes more time than the others. The amount of water eliminated in the three "ratio" hours seems to be a more reliable index of the water eliminating power of the kidney than the Strauss diuresis test. This enhances the value of the Addis ratio test as it throws light on the capacity of the kidneys for excretion of both urea and water. It can be supplemented further by a succeeding "thirst" test and microscopic examination of the urine. We thus ascertain the maximum excreting power for urea and for water, the maximum diluting and concentrating power, and the microscopic findings in the urine after twenty-four hours of dry nourishment.

69: 49-76 (Jan. 21) 1926

*Wassermann Reaction at Childbirth. H. Boas and Gammeltoft.—p. 49.
*Idem. Idem and K. Sick.—p. 61.
*Cancer of the Uterus. T. Dalsgaard-Nielsen.—p. 64.

The Wassermann Reaction in the Retroplacental Blood.—Boas and Gammeltoft analyze the literature on this subject and relate their own experience in comparing the response to the Wassermann test in the venous and the retroplacental blood in 273 patients. The retroplacental blood gave nonspecific responses to the Wassermann test and to various precipitation tests in forty-three of their 254 cases. It is thus not dependable for serologic tests.

The Wassermann Test in Parturients.—Boas, Gammeltoft and Sick obtained a positive reaction to the Wassermann test in the blood serum in 6.7 per cent of 2,200 parturients. The test was repeated a year or two later with practically similar findings, confirming that the positive responses had not been due to the pregnancy or childbirth. The reaction is as dependable during these conditions as at other times.

Cancer of the Uterus.—Fully 12 per cent of Dalsgaard-Nielsen's seventy-three patients with inoperable cancer of the cervix were relieved by radiotherapy from all their symptoms for periods up to three and a quarter years, and 52 per cent were improved for up to two and a half years; only 37 per cent showed no benefit. He advises radiotherapy even with operable cancer of the cervix, declaring that the results are as good as after operative treatment while the mortality is less; 16 per cent of ninety-four cases in this category were free from symptoms for periods up to three and a quarter years, and 55 per cent were materially improved for even longer than this. On the other hand, the results of operative treatment are particularly good with cancer of the body of the uterus, so that radiotherapy is not advised unless the general condition forbids operative intervention.

69: 77-96 (Jan. 28) 1926

Congenital Atresia of Biliary Passages. S. Hansen.—p. 77.
*Action of Cod Liver Oil Water. E. Rekling.—p. 91.

Cod Liver Oil-Water and Rickets.—Rekling reports that rats fed with the McCollum 3,143 ration developed rickets the same, whether or not they had been treated with Malmstrøm's cod liver oil-water. Malstrøm claims unusual efficacy for distilled water after prolonged contact with cod liver oil that had been exposed to ultraviolet rays. He assumes that the water takes up certain useful elements from the oil, but Rekling saw no evidence of rickets-preventing action by oral administration.

69: 97-120 (Feb. 4) 1926

*Chondromas in Joint Capsule. M. Fenger.—p. 97.
Extra Phalanx on Thumbs. A. Kristjansen.—p. 109.

Chondroma in the Capsule.—Fenger adds four new cases to the forty-four he has found on record in which chondromas had formed in an apparently sound knee, elbow or other joint. The development is extremely slow and benign, the growths do not encroach on the articulating surfaces and the functional disturbance is slight, as a rule. He regards the lesion as a benign tumor, of embryonal origin; there was no history of trauma in the majority of the cases. The roentgenogram shows hyaline lumps of cartilage, each with more or less of a pedicle, all on the inside of the capsule, and of various sizes. The lumps may break loose from the pedicle, and there may be thus a large number of loose bodies in the joint; 108 were removed from one elbow in one case.

Norsk Magazin for Lægevidenskaben, Oslo

87: 89-168 (Feb.) 1926

*Periarterial Sympathectomy. J. Holst.—p. 89.
*Pains in the Stomach in Children. Toverud.—p. 111.
*Treatment of Tuberculous Glands. P. Amundsen.—p. 119.
*Fungus Casts in the Urine. E. Gundersen.—p. 124.

Periarterial Sympathectomy.—Holst thinks that our knowledge of the vegetative nervous system is still so imperfect that the theories on which periarterial sympathectomy is based should be regarded with considerable reserve. In his own experience, the operation cured a case of leg ulcer, one of angiospasm and one of a neurotrophic ulcer, but in two cases of trophic ulcers complicated with arteriosclerosis, no benefit was derived.

Chronically Recurring Pain in the Stomach Region in Children.—Toverud refers to what has been called umbilical colic, chronic gastric catarrh and recurring colitis. The clinical picture suggests some general affection with the frequently recurring pains in the stomach region. He ascribes it to improper food, and lack of regular habits. The whole can be improved or cured by altering the mode of life, giving fruit in abundance, with green vegetables, sour milk and coarse, hard bread.

Roentgen-Ray Treatment of Tuberculous Glands.—Amundsen states that 81 per cent were cured of thirty-two patients with simple enlargement of the glands; 49 per cent of thirty-two with periadenitis in addition, and 77.4 per cent were cured of the fifty-three with suppuration and fistulas in the glands. The total cured thus averaged 66 per cent, and recurrence was observed in 4 per cent. All have been reexamined from two to nine years since the treatment.

Fungus Casts in Urine.—No albumin, pus or blood elements were found to explain the dysuria in the adult man, but actual casts were found which were evidently formed by a fungus of the penicillium species.

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THE PHYSICIAN AND THE PATIENT OF THE FUTURE *

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Who can visualize or define the physician and the patient of the future? Human progress has always been associated with epoch making discoveries, and medicine, with other sciences, has blazed an enviable trail along the pathway of the ages. The marvelous achievements of the men of medicine of today are largely the outgrowth and fruition of similar achievements of the founders of our art. The history of no other science contains brighter pages than those illumined by the scientific conquests of the great men of medicine. The new developments in medical science have created the necessity for changes in modes, methods and economies so far reaching as to affect all phases of national, family and individual life. The physician both of the present and of the future must be an integral part of our civilization and much concerned with its changes.

THE HERITAGE OF THE FUTURE PHYSICIAN

Human sympathy evolved a desire in men to relieve sickness and sorrow. Sixty centuries have elapsed since Egyptian medicine first made its imprint on humanity. The Greeks gave us a new conception of medicine as an art. True, the early leaders in medicine were not only physicians but also priests and philosophers with little knowledge of anatomy, physiology or chemistry; but they implanted into the basic structures of our science the spirit of the healer.

Born four hundred years before Christ, surrounded by all that Greek culture and education meant in that day, Hippocrates was justly acclaimed the ideal physician, the great teacher and the founder of modern medicine. He not only taught his pupils what he knew of medicine, but he ever insisted that they should enter into professional life with high ethical ideals, which time has never effaced. To him we owe the formulation of the renowned hippocratic oath. By that vow the physician pledged himself to his teachers, and to disseminate to those who followed him the knowledge that he acquired. He pledged himself to follow that system of treatment which, according to his ability and judgment, would be for the benefit of his patients, and to abstain from whatever is deleterious and mischievous. He foreswore all harmful methods and resolved himself to practice for the benefit of the sick. "Whatever, in connection with my professional practice, or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad," he said, "I will not divulge, as reckoning that all such should be kept secret."

In those earlier periods, nothing was known of pathology and there was no scientific basis on which might be based a reasonable understanding of the causes of disease; nor had the physician or the patient the benefits to be derived from hospital or laboratory. But as time went on diphtheria, plague, tuberculosis, gynecologic diseases, obstetrics and affections of the eye, ear, nose and throat and many other diseases were fairly well defined.

The thirteenth century marked the foundation and rise of the universities and the gradual development of methodical medical studies. Dissection became more common; hence, the knowledge of anatomy and surgery progressed. Conscientious surgeons undertook serious operations without fear of criticism.

At this period few of the world's inhabitants reached adult life without an attack of smallpox. About 1796, Edward Jenner, practitioner of Gloucestershire, in England, boldly transferred cowpox infection from the hand of a young milkmaid into the arm of a young lad named Phipps, and immediately established the fact that immunity could be produced. As the result of vaccination, smallpox, the dread blemisher of human beauty and destroyer of human life, has become a thing of the past, except with people who foolishly neglect to avail themselves of the protection thus provided. But for Jenner's discovery, the faces of at least 50 per cent of this audience would be marred by pockmarks. The decimation of cities and communities from smallpox had continued throughout the centuries. But for this discovery, the continued high death rate from smallpox in foreign countries would have made it impossible for the United States in 1926 to have anything like a population of one hundred and ten million. In the light of this great discovery and boon to humanity, the proofs of which are positive and unassailable, is it not strange that prejudiced, benighted individuals and believers in cults like the antivivisectionists, the antivaccinationists, the chiropractors and the Christian scientists should presume to question the effectiveness of vaccination and unhumanly attempt by precept, by example and by propaganda to prevent its employment? Unfortunately, during the last few years in various parts of our country these forces for evil have succeeded in creating prejudice. Neglect of protective vaccination against smallpox has resulted in more or less alarming outbreaks of the disease. The state of Florida has just furnished an example of this kind. Wherever states have been lax regarding vaccination of school children, smallpox has spread, and yet this disease is an example of contagious disease which we *know* can be prevented.

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* President's address before the American Medical Association at the Seventy-Seventh Annual Session, Dallas, Texas, April, 1926.

Louis Pasteur, father of the conception that bacteria (germs) are the direct cause of many diseases, gave to the world the key to the causes of putrid and suppurative diseases. Then came a positive demonstration of a specific germ—Robert Koch's discovery of the bacillus of tuberculosis.

Surgery adopted the principles first of antisepsis and later of asepsis. Few surgeons had ventured previously to perform major operations on the vital portions of the body, on account of the frightful mortality which resulted from suppuration. Joseph Lister, in 1878, showed how bacterial infection of wounds may be prevented by applying the principles of antisepsis in surgical operations. This momentous discovery revolutionized surgery and greatly lowered the mortality from surgical operations. Today surgeons, applying aseptic principles, do not hesitate to operate on any portion of the body, even the human heart.

In the fifty years since the discoveries that have just been mentioned, chemistry in medicine has made rapid strides, particularly in its relations to studies in physiology and metabolism. Chemical estimation of blood urea, proteins and gastro-intestinal contents and laboratory studies in cardiorenal and blood efficiency enable the physician to estimate the conditions of important organs of the body.

Meanwhile, physics, pathology, bacteriology, sanitation and preventive medicine have been developed to a high degree. The discovery of antitoxin for diphtheria has proved a boon to the child. The various animal carriers of disease have been determined and classified.

The work of Gorgas in making possible the building of the Panama Canal by the application of our knowledge of insect transmission of yellow fever and malaria, and the employment of antityphoid and paratyphoid vaccine, together with sanitation of water and food supplies, have practically annihilated these diseases. The future may bring about the complete eradication of diphtheria, scarlet fever, whooping cough, and possibly all the exanthems; while yellow fever, typhus fever and all plagues are falling before the gigantic march of preventive medicine, based on bacteriologic discoveries.

This has been the contribution of the physician to the march of human progress. Truly, neither the physician of the present nor the physician of the future need ever blush when contemplating his professional heritage.

CHANGES IN PRESENT-DAY MEDICAL PRACTICE

We build on the experience of the past. The rapid strides in medical discoveries of the last two generations, together with the more practical employment of sanitation and preventive medicine, have already effected great changes in the actual duties of the practicing physician. The daily round of our immediate predecessors was made up largely of the treatment of infectious and contagious diseases. The day-book of the family physician usually recorded visits to families for the treatment of measles, scarlet fever, diphtheria, typhoid fever or malaria only. He was educated to treat disease. He knew little of preventive medicine, sanitation or hygiene, nor did his medical education provide such knowledge. Older living practitioners know of the changes which mark the new era only by keeping abreast of the times.

National, state and municipal departments of health have gradually become powerful and controlling factors in preventive medicine, sanitation and hygiene. Health and welfare organizations, both national and local, have also invaded the field of preventive medicine. Great industrial organizations have introduced various health measures, believing it to be for their own best interests from an economical standpoint, as well as for the benefit of the hundreds of thousands of employees. Pay clinics and group practice have made some slight imprint on the modes of practice of today. Furthermore, the publicity work of all these agencies, together with that of our own Association, has gradually created a demand from the public for more information regarding personal health. The outcome of these measures has led to confusion regarding not only the present but also the future of medical practice. But the confusion of the present need never become chaos in the future, provided the medical profession prepares to meet the demands of the patients of the future.

HEALTH EDUCATION FROM THE STANDPOINT OF THE PUBLIC

The new era in medicine which the physician of the future must be prepared to enter must also rest on the foundation of a wide and comprehensive plan of personal and public health education. Professional policies, narrowly conceived, can never successfully oppose the rightful interest of the public. The failure properly to educate the public regarding the achievements of medicine and its importance in the preservation of life and the prevention of sickness may be considered as such a policy.

The editors of great daily newspapers and magazines, the newspaper syndicates, and university and public school teachers are calling on the medical profession as never before to enter this field. They properly contend that the educated physician must remain the source of personal and public health education. The *Saturday Evening Post* recently said that the "science of medicine, as far as laymen are concerned, is the most tongue-tied of all the learned professions." It called attention to the difficulties surrounding the scientific vocabulary of medicine as a means of teaching the public, and the shrinking attitude of the medical profession toward the lay press. Then followed the statement:

> The enlightened physician has a great body of news of the highest importance to communicate to nonmedical readers. When the medical profession becomes more fully awake to its responsibilities in this field, it is to be hoped that it will perceive the gravity and importance of its problem and attack it in force over a nation-wide front. Some national body, such as the American Medical Association, which has made such a good start along these lines, ought to take up the matter in a big way and work out a comprehensive program which would unify the efforts of the agencies already in the field, and cover the lay press of the whole country.

These friendly criticisms are perhaps well deserved. Our answer is that organized medicine has already entered this field. Considerable progress has been made in overcoming the reticence of medical men when called on to prepare health talks for audiences or the radio, or to write articles for lay publication. The prejudice that has existed against these measures is being dispelled. If the radio had been available during the ministry of the Great Physician, he would have made it hum and thrill while it adroitly advertised his message. The radio likewise should serve the physician and be made by him to illuminate his gospel of good health. Medical men now prepare articles for magazines, for the radio and for the public press covering all the phases of medical knowledge. I am proud to state with the greatest emphasis that the medical profession is well able to supply the brains for any and all nation-wide efforts for individual and community health education that the great business publications and the advertising world will undertake to promulgate and finance. This statement is the challenge of organized medicine! I pledge its fulfilment so far as lies within my power, and I sincerely hope that influential laymen of our country will accept the challenge.

Physicians until recently have contributed insufficiently to public health education. Today every licensed physician is being urged to prepare himself to teach his own patients the principles of health. Sufficient progress has already been made to warrant the statement that the field of public health education must and should be invaded by the physician. Organized medicine has approved this measure. The House of Delegates of the American Medical Association is on record as favoring every measure of public health education, including periodic medical examinations of the supposedly healthy. Two years ago the Board of Trustees entered this field on a larger scale by establishing *Hygeia,* a monthly public health journal published distinctly for the lay public. *Hygeia,* devoted to individual and community health, has already qualified as the leading public health journal of America. Its columns contain information of the utmost value covering the whole field of medicine. The lay reader is told what to do and what not to do regarding health affairs, and every issue contains exposures of vicious nostrums and quackery. Clip sheets from every issue of *Hygeia* are furnished to hundreds of newspapers, so that already millions of our people are receiving this direct and valuable health service.

Furthermore, many of our great newspaper syndicates, great daily newspapers and reputable magazines refuse to publish any material pertaining to health except on reliable medical approval. The propaganda of quackery and vicious nostrum advertising are refused by these great publications in the interest of the public health. Indeed, in health matters, many of these publications rely constantly on the advice received from the American Medical Association headquarters. Radio instruction in public health is rapidly increasing as a result of definite programs arranged by state and county medical societies. Other legitimate public health agencies are also active in this field.

PERIODIC PHYSICAL EXAMINATION

Periodic physical examination of the supposedly healthy is a public health measure that has the approval of the medical profession. The members of state and county medical societies are being urged not only to undertake the actual work of examination but to promote this healthful measure. The task of educating the one hundred and twenty million people of our country in personal and public health matters is stupendous, and its promulgation will require the combined efforts of medical men as teachers, of influential laymen and great publications as promoters. Physicians believe that whenever this great task shall have been accomplished in any nation, state or community, the average life of the inhabitants involved will be increased at least another seven years over the twenty that have been gained in the last half century.

Knowledge of the great principles involved in the preservation of health and of the great historical proof of preventive medicine will lead legislators and others in responsibility to protect every community against the blandishments of unlicensed quackery, the enmity of antimedical propagandists, and the evils of nostrum medication.

Public officials are already beginning to appreciate their responsibility regarding public health measures. In his recent message to the New York State legislature, Hon. Alfred E. Smith, governor of New York, proclaimed that "one of the great functions of government is the preservation of public health." He further said:

> I renew the recommendation of a year ago that careful consideration be given to the protection of the people of the state from unlicensed and unqualified persons practicing medicine. The cooperation of the medical profession is an essential factor in the protection of the public health, as well as in the care of the sick. A very large part of modern public health is urging people to get the advice of their physicians before serious and perhaps incurable conditions have developed. Such effort comes to naught if unqualified persons are allowed to hold themselves out as physicians. The subject is a difficult one, but the state of New York should take the lead in establishing high standards of medical practice, and providing a practicable plan for their enforcement. It is a matter of justice to qualified physicians and of protection to the public.

Let us hope that all state governors and all legislators will emulate the fine example of humanitarianism set by the governor of the Empire State.

HEALTH EDUCATION FROM THE STANDPOINT OF THE PHYSICIAN

The proposed campaign of public health education will surely create a demand for new contacts between patient and physician. Physicians must give a new significance to the word patient, for in the new order of things both sick and well people must and will be recorded in the lists of their physicians. In one of his recent addresses, Dr. George E. Vincent has called attention to the demands which this newly informed public is likely to make.

"They will demand that their needs should be met," he has said, and he warns that unless the medical profession shall organize to meet the demand in the proper spirit, various forms of state medicine are likely to become the order of the day. "No thoughtful person can welcome the extension of state medicine beyond the legitimate and necessary field of public health activity, but if private initiative and voluntary cooperation fail, it may be impossible to resist the demand for governmental intervention" in the practice of medicine. In other words, the state may be called on to organize and control not only methods of medical treatment but also the financial remuneration of the physician. I believe that this is unnecessary, but it surely will come unless we ourselves give heed to the coming needs and formulate our modes and methods to meet this demand in the spirit of true medicine. For medical agitators to stand on the housetops and shout defiance to state medicine will never solve a problem which can only be solved by perfecting a better way. The better way is to promote by precept and example the vast importance of maintaining the personal relationship of physician and patient. This is an essential fundamental in medical practice. For this principle, which the medical men of wide vision are contending today, no brighter example can be named than the late Sir James Mackenzie. He was a far sighted student of mankind who devoted the later years of his life to preaching this beneficent gospel.

Wilson, a disciple of Mackenzie, in "Pygmalion, or the Doctor of the Future," outlines a most vivid picture of the spirit of medicine advocated by Sir James Mackenzie, emphasizing that the intimate relationship of the coming medical man with his patient is to become more intimate than our present-day leaders in medicine have demanded. "Once upon a time," he says, "the priest was the doctor," but, "tomorrow the doctor may well have become the priest, in a new sense of the word." Not deprecating the necessary scientific preparation for his calling, this physician of the future must be "a humanist, a man with the widest and deepest possible knowledge of human nature, and the profoundest possible understanding of human motives. He will be a cultured man, ripe in intellectual attainments, but not lacking in emotional sympathy, a lover of the arts as well as a student of sciences. This is, indeed, no more than a projection into the future of a gracious figure of the past—for the great physicians of other days were all, likewise, great citizens of humanity." There must be less of the machine or mechanical physician and more of the individual.

Our great leaders in medicine have emphasized fully the fact that this physician of the future, if he expects to meet the new demands in such a manner as to prevent the unfortunate entry into the practice of medicine of so-called state medicine, must prepare himself educationally, morally, psychologically and sociologically, to make the painstaking intimate personal contact with his individual patient so effective, outstanding and unassailable that no other form of medical practice will be permitted by the layman himself.

What have I described? No new word need be coined for the answer. The future health needs of the public can best be supplied by a more humane, painstaking, better qualified, general practitioner of medicine. The family physician should remain the foundation of medical service. His outlook, functions and training need modification to meet changing needs. The field will be great and the opportunity for service boundless. The loyal service of the ideal general practitioner of medicine will go far to limit the advent of insurance methods of treatment, state systems, industrial groups, and other socialized principles which the true psychologists and humanists in medicine look on as mechanistic, soulless, bureaucratic, card index systems, discounting the spirit of individual relationship characterized by the better way.

The gospel of good health is based largely on the principles of preventive medicine. Our Association endorses every proper method for promoting all phases of preventive medicine. Periodic examination of the apparently healthy is one of our projects which promises well for the future as an important agency for preservation of individual good health. The American Medical Association is pledged to this measure, and state and county societies are rapidly becoming alive to its importance. Sufficient progress has already been made to demonstrate the fact that many of the illnesses of life are unknown to the patient during the incipient stages. This procedure enables one's physician to detect the first danger signal of any form of disease and to cope with it during its incipient and curable stage.

This family physician must educate his patients and community in preventive medicine and be to some extent a health administrator. His chief rôle and his chief service will be to keep his patients well. Evidently, such service can be made possible only by maintaining intimate, clinical information, well recorded, regarding every man, woman and child who seeks his service. And every man, woman and child in every community should have his health recorded in the files of his family physician. Too many of our inhabitants worry through life with only fairly good health, and while they accomplish their daily duties, these fairly well persons may never know the exuberance and happiness of perfect health. Hence, one goal of the future practitioner of medicine will be the attainment and maintenance of exuberant health, which is the inherent right of every person. A higher average of overflowing good health means a higher average of happiness, comfort, usefulness and economic value of the individual. The superman will never materialize without superhealth.

THE EDUCATION OF THE FUTURE PHYSICIAN

Fundamentally, the business of the undergraduate medical school is to teach scientific medicine. The application of the science of medicine on the part of the physician constitutes the art of medicine, knowledge of which should be supplied by the undergraduate curriculum. At the outset it should be clearly affirmed with the fullest emphasis that the practice of medicine is in no wise a business, and those who purpose to enter this field of service should remember that their material interests must always remain a secondary consideration and that its emoluments may never be reckoned in terms of finance. The education of the physician of the future must provide instruction in the art of medicine as well as in the science of medicine—not less of science, but more of the art is the educational need of the hour.

This view of medical education of the physician presages the future output of medical men whose scientific thinking will smack less of the mechanical, less of the technic of the laboratory, and more in the terms of the humanist. He must be taught to think more in terms of life, health and humanity than of disease and death. The medical education of the present places too much emphasis on the material and too little on the spiritual phases of medical practice. The student of medicine must be taught how to care for and advise the man as well as the patient. To this end, nothing need be done to disturb the high standards of medical education which the American Medical Association has set. It is necessary, however, that greater elasticity be given through proper modification of the present curriculum and policies of medical education.

The student should come in contact in the ambulatory department and at the bedside with patients for self-study under proper guidance and control. His course should include neurology, psychiatry, dermatology and the study of the diseases of children. It should also include instruction on the principles of both general and special surgery. A reasonable time should be devoted to ophthalmology, to otolaryngology, and to genito-urinary and other special diseases.

I find myself in agreement with Billings that the ideal general practitioner "must have a good knowledge of general and physiologic chemistry, of human anatomy and physiology, of pharmacology, of general pathology with constant training through the four years of residence in morbid anatomy, of epidemiology, immunology and psychology. In the clinical branches he must have the training of his brain, special senses and hands in the recognition of disease. He must learn to use the simple diagnostic aids in the form of instruments and laboratory tests. With this knowledge of the methods of diagnosis, he must have constant and daily opportunity to study disease as expressed in the ambulatory and ward patients. He must have an opportunity to observe the etiologic relations of occupations, environment, social conditions and other factors to disease. He must learn and recognize the importance of community as well as individual disease. He must have the opportunity to observe the results of medical treatment and management and the final condition of the patient after operative surgery. He must have an opportunity to witness minor surgical operations, emergency surgery, and especially to have practical training in the treatment of fractures of the bones and dislocations." In the hospital he should have an opportunity for the practical study of dietetics and of dietotherapy. He should have practical experience in the measures of disinfection in the sickroom and especially in the control of communicable diseases. "Finally, in addition to the educational qualifications, both academic and medical, the family physician must be a man of character. His daily life must be a practical expression of honesty, morality and resourcefulness in service to his patients. He will have a due consideration of his own health and responsibilities, and at proper periods will play as he works with well directed energy, giving and asking half the road and fair play."

That these changes in the curriculum may be brought about, influence should be brought to bear on the state licensing boards to abolish the nonsensical requirement of a stated number of hours of study in each branch of the curriculum. Obviously, a four year course of study of medicine, preclinical and clinical, is not too long, particularly in view of the fact that every student should receive additional common sense instruction in public health, preventive medicine, psychology and sociology so far as the term applies to the necessary alliance of medical and social sciences in the prevention and palliation of disease.

Every undergraduate medical school should make the necessary changes in the undergraduate curriculum to provide for these additional subjects. The curriculum should further provide instruction in principles of professional conduct and the highest ideals of medical ethics.

If our future practitioner fails in these things, his "place in the sun" will progressively diminish and his rôle will be invaded by industrial, state and various group practices which will be a great disadvantage to our inhabitants. The family physician should remain the foundation of medical service.

In view of these added requirements in the education of the future physician, it is unthinkable even to contemplate any lowering of the standards of medical education. Nor should a limited medical training be approved for men who might be willing to practice in rural communities. Any claim for a limited medical training is fallacious in reasoning and untenable, for the reason that the best in medical care is none too good for our lowliest inhabitants, no matter where they reside. It is sometimes argued that physicians of mature years, graduates of a former generation, have been successful even though the educational requirements of that day covered not more than two or three years. But it must be remembered that this was the full medical education for its day, and the graduates of that day have reached distinction in the profession and have made valuable contributions to medicine, surgery and pathology, not because of their limited medical education, but in spite of those limitations.

It is true that in certain limited areas in our land there is some scarcity of physicians. It is also a fact that for some years, particularly during the World War period, fewer men entered the medical schools; but soon after the war the numbers began to increase, and, according to the report of the Council on Medical Education and Hospitals of the American Medical Association, the higher entrance requirements are not preventing students from entering the field of medicine. The total enrolment of medical students in the United States since 1919 has increased at the rate of about one thousand a year, and in 1925 the approximate total enrolment of medical students in this country was 18,368. The proportion of students who are either partially or wholly self-supporting during their medical course is as large now as it was in the former days. Furthermore, the majority of the medical schools of the country are never able to accept all the students who clamor for admission. Possibly a larger number of medical schools should be provided in order to educate the number necessary to meet the needs of communities.

In view of the great expense involved in the maintenance of our medical schools, and in view of the fact that a large proportion of this expense is a contribution from philanthropic sources, every school should enroll the largest possible number of students. No school should reduce its enrolment to less than fifty students in a class, and the larger and better equipped schools should increase the number further to at least eighty or ninety to a class. Furthermore, the undergraduate medical school should limit its teaching to the output of all round qualified general practitioners of medicine only, and it should in no sense attempt to prepare men for the various specialties. Preparation for all the specialties should be entirely dependent on graduate schools of medicine. So far as our country is concerned, courses for specializing may be secured through graduate medical teachings in the universities and postgraduate schools. The courses for the majority of the specialties should cover a period of at least three years. In several of the specialties in this country, particularly the eye, ear, nose and throat, examination boards have been created for men who desire to be formally recognized by the national societies. Fortunately, it is no longer necessary for men to seek the graduate training in foreign countries. Under this scheme of education, every specialist must first receive the preliminary training required by the general practitioner of medicine.

Careful estimates would indicate that properly qualified general practitioners of medicine, aided by moderate home laboratory facilities, will be able to make a correct diagnosis and give all necessary instruction and treatment to at least 80 per cent of all the people who seek his aid, while 20 per cent of specialists, including internists and general surgeons, all thoroughly educated and trained, will be ample in number to care for the sick who need highly specialized service. Furthermore, the same proportion will to a large extent hold true of those who require hospital and special laboratory service.

Regarding the distribution of physicians throughout the country, it is a fact that the urban population has rapidly increased and now is in excess of the rural. This proportion of the general population is emphasized to a greater degree in the distribution of physicians. There are various explanations of this fact, the chief of which are the advent of the automobile and better living conditions, educational, social and otherwise, in the larger towns. "The properly trained and educated young general practitioner, the product of the medical school which has made its curriculum elastic and modified to make a practitioner, will be fit to practice in either the city or the country. To induce him to go to the country will require improvement in social and educational opportunity in rural districts. This is rapidly coming about, but needs stimulation through cooperative endeavor from the medical profession, educators of the country and other agencies who will bring about better schools and facilities for social enjoyment."

NEED OF HOSPITALS

Time will permit only a brief mention of the hospital as a necessary facility in medical practice. At present, 25 per cent or less of the practitioners, both city and country, have hospital facilities. Hospitals or similar facilities for the application of the refinements in diagnosis and treatment should be available in all communities, and particularly in rural districts. At present it seems somewhat difficult to supply proper hospital facilities in many rural communities, but our proposed extensive program of public health education should lead the enlightened laity to meet this demand. Every physician should be in contact with hospital facilities and experience—his progress in his profession depends on it. In every instance, particularly in rural communities, open staff organization is preferred; but hospitals connected with medical schools must necessarily be closed-staff organizations. It is possible that in other hospitals the open-staff organization could be made practicable by having a so-called executive staff or regular attendants in all departments who would be responsible for the character of the professional conduct of the hospital, and this staff would be supplemented by an auxiliary or associated staff properly classified and made associate members of the executive staff departments. This would afford every worthy physician of the community a hospital connection, but he would be obliged to follow the regulations of the hospital made and adopted by the executive staff.

CONCLUSIONS

May I venture the following conclusions and opinions:

The scheme of undergraduate medical education should be reconstructed to include in its curriculum as a prominent feature the science and art of health conservation, and the art of applying the principles of the science of medicine through the personal relationship of the physician and his patient. The undergraduate student must be trained to treat the body from the standpoint of health as well as that of disease.

These added requirements to the educational program of the future physician emphasize the argument against any lowering of the standards of medical education or lessening of the time involved in the teaching process.

Public health education is an outstanding need of the hour. The gospel of personal and community health is complex. It should be promulgated by health departments and agencies, by lectures, radio and film; but it will never reach its highest efficiency until it includes a maximum of direct personal instruction by properly qualified family physicians.

The patient of the future, in view of his perfected health education, may be expected to derive from it a wise judgment which will lead him to seek the continued advice and counsel of his personal physician. Furthermore, in view of our perfected system of individual and community health education, cults and other menaces to public health, all of which are founded on theories for the most part baseless and futile, will gradually disappear before the rising sun of enlightened public opinion.

The ideal family physician of the future by training, by experience, and by expert knowledge of health conservation will derive a potential power which will qualify him to control and direct the health problems of men.

The family physician of the future must have proportionate representation in the councils of his profession. No specialty or combination of specialties, not even general surgery, should be permitted to dominate the health affairs of a community or of a nation.

It is true that the service rendered by a physician may not be considered in terms of finance, but in no sense should our physician of the future offer this as an excuse for slothfulness in the management of his business affairs. Every detail of his newer service in the prevention of disease is of great value to his patient. Health education and conservation are services of value even greater to the patient than the sums paid for helping the body to repair the ravages of disease.

The maintenance of individual practice in the person of the general practitioner or family physician is of the utmost importance for the survival and continuation of the family home as the foundation of the nation.

Finally, let us hope that the physician of the future will be fully conscious of the vastness of the causes which he must advocate and the usefulness of the deeds he must accomplish; that he may have wisdom, poise and capacity of understanding that will breed in his patient an extraordinary confidence and esteem; that he may have a vision of a healthier, happier world which will blossom into unheard of activity. May we hope that to this end he will dedicate himself "through service to all that will advance and maintain and increase the sum of human happiness."

Every man who looks toward the future is charged with being a dreamer. But the verdict of history has always been that the onward march of science, religion and civilization has been led by dreamers. I have ventured modestly to tell my dream, knowing that it will find a thousand responsive cords in the hearts of my colleagues whose ambition and passion is to serve our fellow-men.

> Who dreams shall live. And if we do not dream
> Then we shall build no temple into time.
> Yon dust cloud, whirling slow against the sun,
> Was yesterday's cathedral, stirred to gold
> By heedless footsteps of a passing world.
> The faiths of stone and steel are failed of proof,
> The king who made religion of a sword
> Passes, and is forgotten in a day.
> The crown he wore rots at a lily's root,
> The rose unfurls her banners o'er his dust.
> The dreamer dies, but never dies the dream.

Though Death shall call the whirlwind to his aid.
Enlist men's passions, trick their hearts with hate,
Still shall the vision live. Say nevermore
That dreams are fragile things. What else endures
Of all this broken world save only dreams!

—*Dana Burnet.*

30 East Fifty-Eighth Street.

LYMPHOBLASTOMA (MALIGNANT LYMPHOMA)

AGE AND SEX INCIDENCE, DURATION OF DISEASE, AND THE EFFECT OF ROENTGEN-RAY AND RADIUM IRRADIATION AND SURGERY

GEORGE R. MINOT, M.D.
AND
RAPHAEL ISAACS, M.D.
BOSTON

(Concluded from page 1189)

INFLUENCE OF AGE AND SEX ON DURATION

Age and sex influence the duration of the types of lymphoblastoma under discussion, as well as the acute and chronic forms of lymphatic and myelogenous leukemia. These factors are to be recalled in considering the effect of therapy.

The data show that among the males the chance for a long duration of lymphoblastoma is definitely greater for those over 34 and under 65 years of age than for those below 25. For the age periods 0-14 and 15-24, about 75 per cent of the males died within 2.5 years, and only 5 per cent lived six or more years after the onset of illness. This is in contrast to the facts that 63 + per cent of both those aged 45-54 and 55-64 died within 2.5 years, and 18 and 8 per cent of each group, respectively, had their disease for more than six years. Figures of the same sort for the two decades between 25 and 45 are much alike and intermediate between those for young and relatively old ages.

The females in the age groups 0-14, 15-24, etc., up to the age of 55 showed, except in one group (25-34) a lower or equal incidence than males for a disease duration of 2.5 years or less. The lowest parcentages were 50, 57 and 52, respectively, for the ages 0-14, 15-24 and 35-44, and 30, 14 and 27 per cent, respectively, for the cases at these ages lasting six years or more. None of the females in the age groups 25-34 and 55-64 had their disease more than six years, and 77 per cent in the latter group died within 2.5 years after the initial symptoms. Comparable figures for the women from 45 to 54 are intermediate between those for the latter and the former groups.

The men 65 years of age and over had lymphoblastoma distinctly longer than the women of this age. At this time in life the factor "life expectancy" becomes an important one to reckon with when drawing conclusions. Thus, without taking into consideration persons over 65, the duration of lymphoblastoma in females tends to be longer than in males, being longer in men 35 years or more of age and in women under 25 years of age than in younger males and older women, except when the latter are from 35 to 44 years old. It may be noted that at the ages when females are relatively susceptible to lymphoblastoma the duration of disease seems to be longer than at other times. On the contrary, at the ages when the incidence in males is high the duration is apt to be shorter than when such is not the case. This rather peculiar difference is open to speculation. Averaged data concerning the duration of lymphoblastoma as related to age and sex are presented in chart 8, and the absolute number of cases composing the different age groups is listed in table 1. The chart shows in a different manner what has been recorded above.

The separate data for males and females treated and not treated with irradiation at different ages is relatively scant. No distinction in favor of irradiation can be observed between comparable groups, except that perhaps it influenced beneficially the duration of life of some males and females whose age was the same as those noted above to live the longest after the appearance of symptoms referable to lymphoblastoma.

To illustrate further that women live longer than men after lymphoblastoma develops, and that most of the cases of short duration occur in males, the percentage of males composing each group of patients having their disease for one, two, three, etc., years is shown in chart 9.

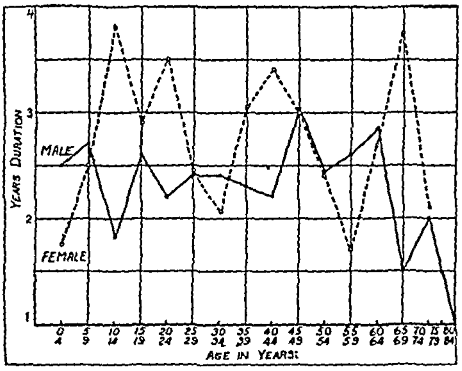

Chart 8.—Average duration of lymphoblastoma in those patients who had their disease less than ten years, with reference to the ages at onset, excluding one girl, aged 7, whose disease lasted nine years: solid line, males (277 cases); broken line, females (116 cases).

ESPECIAL INFLUENCE OF AGE ON DURATION OF DISEASE IN IRRADIATED AND NON-IRRADIATED PATIENTS

The duration frequency for three groups of cases, those lasting up to three, from three to six, and six or more years, correlated with the age of the patients is presented graphically in chart 10. The lines in this chart illustrate one more way of considering the influence of age on duration without taking into account the factor of sex or treatment. The data plotted similarly, but separately, for the irradiated and nonirradiated patients do show differences. There is, however, no distinction between that for the thirty irradiated and the thirteen that were not, who had their disease six years or more. The age distribution of the irradiated patients (158) with a duration of less than three years yields a curve very much like that in chart 10 for all cases of this duration. On the contrary, the nonirradiated patients (115) with a duration of less than three years have an incidence of about 7 per cent less for the age groups 0-14, and 15-24, and about 9 per cent greater for the age groups 25-34 and 45-54. Similarly constructed curves for cases of from three to six years' duration in which the patients were treated and not treated with irradiation differ considerably. That for the nonirradiated group (thirty-six patients) to the age of 54 is somewhat like that in chart 10 for all cases of this duration, the chief difference being an incidence that is 10 per cent less at the ages 25-34. Then there occurs at the ages 55-64 a rise to 23 per cent, or 10 per cent more than for all cases at these ages. The age distribution curve for the fifty-two irradiated patients with a duration of from three to six years shows a peak of 28 per cent incidence at the ages 25-34, rising rapidly from 6 per cent for those 0-14 years old and 15 per cent for the 15-24 age group. After the peak, the curve falls first slowly to 25 per cent for the 35-44 age group, and then rapidly, but constantly, to 5 per cent for the ages 55-64 years. Thus, the chief difference in the percentage distribution between the irradiated and nonirradiated patients with similar duration and like age was as follows: A greater percentage of irradiated than nonirradiated patients below the age of 24 had the disease less than three years, and a greater percentage of nonirradiated than irradiated in the age groups 25-34, and 45-54 had lymphoblastoma for this amount of time. The distinction between the three to six year cases is that there is a somewhat smaller percentage of irradiated ones in the 15-24 year group, a distinctly greater percentage in the 25-44 year period of life, and a much rarer occurrence at the ages 55-64 than for the nonirradiated patients.

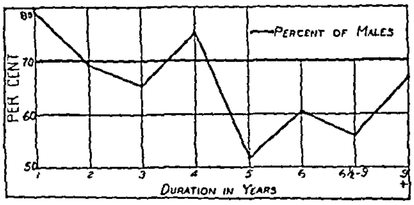

Chart 9.—Duration of lymphoblastoma: percentage of male patients having the disease for different periods of time. Of all 401 patients, 70 per cent were males.

Thus, it might be considered that irradiation had not influenced the duration of the cases lasting six or more years, yet had doubled the chances of persons from 25 to 45 years old having their disease from three to six years, and that it had influenced some groups less markedly, and others not at all or unfavorably. A similar tendency for irradiation to enhance apparently the chances of cases of chronic myelogenous leukemia to last from three to six years has been noted.[8] The treatment may be blamed for the greater incidence of irradiated than nonirradiated patients below the age of 24 with lymphoblastoma of short duration. The high frequency in young males of acute types of lymphoblastoma who happened to be irradiated more often than not may account for this great incidence of cases with irradiation. On the contrary, there is considerable evidence at hand that it is exceedingly easy for irradiation to cause a rapid dissemination of Hodgkin's disease, which composes the majority of the cases of lymphoblastoma in youth. Irradiation in what is often considered suitable therapeutic doses can lead to injury of the lymphoid tissue, and there occurs in Hodgkin's disease progressive sclerosis of this tissue, which is reflected in the peripheral blood by the characteristic lymphopenia. Thus, such treatment in undesirable amounts may intensify the process, so that an increased rate of progress of the disease ensues although a decrease occurs in the size of the irradiated lesion. Such overdosage may well account for the high incidence of irradiated cases of short duration in youth. A similar effect may occur in other types or groups of cases, but is not so distinct as for the patients with Hodgkin's disease.

TREATMENT OF CASES OF LYMPHOBLASTOMA OF SIX OF MORE YEARS' DURATION

A tabular view of sixty cases (thirty-nine patients dead[9] and twenty-one living) that have had some form of lymphoblastoma for six years or more is presented in table 2. The incidence among the 401 dead patients having their disease this length of time is about 10 per cent, which is essentially the same percentage as for those irradiated and those that were not. However, among the seventy-six living patients there are now twenty-one (27 per cent) who have had their disease this long. One has had no treatment of any sort, and the others have been treated with roentgen rays or radium, with or without surgery. Among the dead patients only ten (25 per cent) of the thirty-nine were considered to have been irradiated early so far as the character of the disease was concerned. Seven of these were treated also by surgical measures. There were three patients who underwent a therapeutic surgical operation early, but were never irradiated. Fifteen of the twenty-one living patients were irradiated first when their disease was in its early stages, and eleven of them had surgical treatment. Thus it may be noted that the percentage of patients that have had lymphoblastoma for six years or more approaches three times as great a figure for the living as for the dead. In turn, nearly three times as many living as dead patients received early treatment. Offhand, it would seem that the incidence of long duration had been increased by early treatment or modern methods, and, although this may be so, various other factors than treatment can account for this high incidence. The percentage frequency of cases lasting long is about the same for each of four groups of patients first coming to the clinic in four equal periods of time since the year 1900. This suggests that with irradiation and the improvement in irradiation methods the duration of the disease has not been influenced favorably. It must be appreciated that as time passes by there is an accumulation among the living patients of cases that are of particularly long duration. Likewise, the statistics must be considered with the knowledge that living patients accepted for study in the past year have been fewer than in recent years, and a tendency to select cases has probably occurred within two years, so that the total number of living patients may be proportionately few, compared to other times.[10] Also, unconsciously a greater effort has been made to keep track of cases of long than of briefer duration, so that perhaps all of long duration are listed and undoubtedly some of short duration excluded.

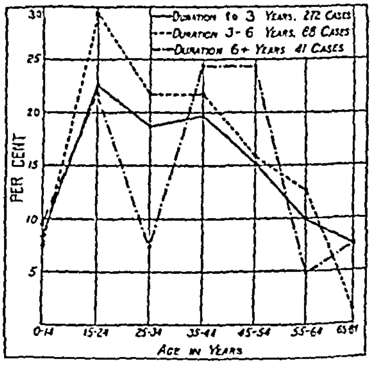

Chart 10.—Duration of lymphoblastoma: Curves showing age distribution of all patients (dead) whose disease lasted up to three years (272, solid line), from three to six years (eighty-eight, broken line), and six years or longer (forty-one, dash-dot line).

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[9] Two of the total forty-one are not included.

[10] That this is so is shown by the fact that in the four months since the data were compiled the number having lymphoblastoma six years or more remains the same. On the contrary, fifteen new cases have been seen; and none are of more than four years' duration. Three of the patients previously alive have died. Thus, the living patients now total eighty-eight rather than seventy-six, which would decrease the percentage frequency of long cases among the living patients.

Following the initial symptoms of all these patients who had lymphoblastoma for a long time, the progress of disease as a rule was slow; and although surgical or irradiation treatment may have been undertaken in an early stage, this at times was a few years, even up to eight, after onset. There appears to be a definitely greater percentage of such instances among the living than the dead patients, so that by chance there are relatively more among the living whose disease remained local a long time before treatment was begun. Thus, therapy cannot be the sole reason for the unusual duration. The type of case that naturally lasts long is the one with a slow rate of progress early, spontaneous remissions, and apparently with the initial lesions developing particularly in parts of the body readily accessible for therapy. This permits a good opportunity for diagnosis before the disease is advanced, and thus treatment may be given at a desirable time. It is just such cases that are frequent among this group of living patients treated early in their disease. In view of the control series of cases, together with other aspects referred to above, it certainly seems as if treatment had not played the entire part in increasing the incidence of cases of long duration among the living, eleven of whom at present appear healthy.

TABLE 2.—*Lymphoblastoma of Six or More Years' Duration*

Type of Case; Number; Sex		Duration			Treatment (Often Long Periods Without Any)				
		9 Years or More	5 or More Years after Pathologic Diagnosis	Location Where Lesion First Noted; Number of Cases	Arsenic or No Therapy	Stage of Disease	Surgery	Surgery and Roentgen-Ray or Radium	Roentgen-Ray or Radium
Hodgkin's	19*	4 cases (3 ♀);	15 cases;	Neck 16	3	Early	2	7**	1
Male 8		longest,	longest,	Axilla 2		Middle	0	0	3
Female 11		17¾ years	13 years	Groin 1		Late	0	0	3
Lymphosarcoma	23†	6 cases (3 ♀);	16 cases;	Neck 10	1	Early	2	10 (roentgen-ray late in one)	3
Male 12		longest,	longest,	Tonsil 1					
Female 11		16 years	13 years	Nose and sinus 2		Middle	0	2	3
				Eye 2		Late	0	0	2
				Abdomen 6				(10 living)	(1 living)
				Groin 2					
Pseudoleukemia	13‡	5 cases (1 ♀);	6 cases;	Neck 8	5	Early	1	0	3
Male 10		longest,	longest,	Groin 2		Middle	0	0	2
Female 3		12 years	7 years	Spleen 2		Late	0	0	2
				Abdomen 1					
Lymphoblastoma, unclassified	5§	1 case (1 ♀)	2 cases;	Neck 2	1	Early	0	1	1
Male 3		longest,	longest,	Eye 1		Middle	1	0	0
Female 2		3 years	6 years	Axilla 1		Late	0	0	1
				Abdomen 1					

Total, 60; male, 33 (55%); female, 27 (45%). Dead, 39; living, 21.

* In the Hodgkin's group the disease became slowly generalized. Spleen enlarged late. In thirteen cases abnormal nodes were in two locations within three years of onset; and in two cases within a year. In three others they did not occur in more than one location until five years or more. In one (eight and one half years' duration) of four living patients there have been no signs of disease for five years.

** In two, roentgen ray not for several years after surgical treatment.

† Twelve of the lymphosarcoma group are dead. One died of heart disease without recurrence of the lymphoblastoma. In one the disease remained confined to the head region, and in one almost entirely to the abdomen. The disease became generalized in nine; in one of which the original lesion was in the vicinity of the eye. It was generalized in four in from three to four years after onset, in two in five years, in three in from seven to thirteen years. Eleven are living. In four the disease is generalized and it began in the neck, abdomen or eye region. No recurrence has been noted in five patients whose initial lesions were in the neck for two cases, and in the rectum, nasal and eye region for the other three. The disease remains local in two cases; in the mediastinum of one, and in the pelvis of another. The spleens of these twenty-three patients were seldom enlarged more than slightly. Roentgen ray or radium often improved the patient's health greatly and caused rapid shrinkage of masses.

‡ In the cases called pseudoleukemia, frequently no treatment with roentgen ray or radium was given for from four to six years. Such treatment caused less striking effects than in the cases of lymphosarcoma. The disease became generalized in less than one and one-half years in all the cases of pseudoleukemia, except in one patient now living. Abdominal masses were present in all but one of the ten deceased patients. These masses were often present early in the disease, when the spleen was usually enlarged. Prominent symptoms usually did not appear until four years after onset of the disease.

§ In the unclassified cases of lymphoblastoma the disease became generalized in three, and in one remains confined to the eye region and in another to the abdomen.

Be this as it may, it does remain true and noteworthy that there is a high frequency among the cases of long duration of those treated early by surgery and irradiation, the latter being continued in a suitable manner. It becomes difficult not to believe that therapy does, at least sometimes, influence the duration of the disease. Even so, the facts might not be reconciled in this way; for it is true that similar cases, either with or without any irradiation or surgery, or such treatment only very late in the course of the disease, are alike in duration, and that among the cases of all types are some with long intervals, even years, between irradiation treatments.

A few notes are given regarding several cases to illustrate certain points, including how treatment must in all reasonable certainty be able to lengthen the life of a patient with lymphoblastoma.

Complete removal of diseased tissue by surgical measures was done early in very few cases. One boy, now 15, had the diseased nodes in his neck removed nine years ago, when no other enlarged ones were detected. The pathologic examination of the tissue undoubtedly shows lymphoblastoma and apparently of the Hodgkin type. A series of radium treatments was given during the two years after the operation. About a year after operation, there appeared slight enlargement of nodes in the vicinity of the scar, but none since. This boy has had no irradiation or especial treatment for more than six years and appears well in all respects. One woman with Hodgkin's disease, who had surgical and irradiation treatment early, showed at that time enlarged lymph nodes in various parts of her body, which fluctuated in size during the following five years. She has been given no irradiation in the last four years, and there have been no detectable symptoms or signs of disease during this time, except that her blood picture has shown a progressive lymphopenia. It must be recalled that with or without treatment of the patient symptoms may be absent for a number of years. It is believed that the boy may be cured of lymphoblastoma, but that this woman, especially on account of her blood picture, will develop serious symptoms before long. One can decide if he chooses that treatment has not affected the duration of either case, and somewhat similar cases without especial treatment make this assumption tenable.

Cunningham [11] has recorded a case of Hodgkin's disease of twenty-five years' duration. The longest duration of lymphoblastoma in the present series was seventeen and three-fourths years The patient was a girl, aged 12 at the onset of her illness, and she never was treated by irradiation or surgery. The diagnosis was established by microscopic examination of an excised lymph node thirteen years before her death. Intermittently for years there was swelling of nodes in the neck, with a slow involvement of other nodes and enlargement of the spleen Finally, two years before death, essentially all external and internal nodes became enlarged

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[11] Cunningham, W. F.: Hodgkin's Disease: A Study of a Series of Twenty-Five Cases, Am. J. M. Sc. **150**: 868 (Dec.) 1915.

Among the patients whose disease was termed lymphosarcoma is one who had a tumor of this sort removed by resection of a portion of the small intestine at a time when no other evidence of disease existed. Following the operation, this patient had no symptoms for seven years Then there appeared multiple masses in the abdomen with enlargement of nodes in the groin, and she died nine years after the onset of symptoms Similar instances are reported in the literature,[12] but none with such a type of lymphoblastoma have lived so long after initial symptoms except following surgical treatment. Thus it seems logical to attribute the long duration to surgical intervention. Another patient, one with a lymphosarcoma of the rectum, appears now entirely well, after very complete treatment with irradiation that was last administered five years ago A somewhat similar state of affairs holds for a patient whose lesion has been confined to the neck, and for another in whom the disease was in the nasal region. The mediastinal case of long duration, first treated with roentgen rays early, has been reported by Holmes[13] After the cases in table 2 had been listed, it was noted that no surgical procedure was undertaken on those of long duration called pseudoleukemia. The reason for this is simple to understand; namely, this type of lymphoblastoma becomes generalized early, so that at the time the patients are seen or a diagnosis made there is no single local lesion for operation.

DURATION OF CASES IN WHICH IRRADIATION WAS DONE EARLY

A survey has been made concerning the duration of lymphoblastoma in cases selected because it was believed that the patients had had early and adequately continued irradiation treatment. These patients are now all dead. Fifty-four were selected to compose one group because they first received irradiation early so far as the disease state was concerned; i. e, when relatively local, when toxemia signs and symptoms and the like had not occurred A second group of eighty-one cases was chosen because irradiation was begun before 33 per cent of the duration of each patient's illness had occurred (i. e., for example, two months or less for disease with a duration of six months; two years or less for disease with a duration of six years)

The frequency of the different durations of lymphoblastoma for each of these two groups is contrasted in chart 11 with that for (1) 184 cases treated with irradiation late in the course of the disease so far as its character was concerned, (2) 157 cases treated with irradiation after 33 per cent of the disease duration had taken place, (3) 163 cases not treated with irradiation

The length of the disease in those irradiated and not so treated has been shown for half-year periods in chart 6, and is shown in chart 11 for yearly periods. No further comment of a comparative sort on these data is required

The data yield curves for the different groups of irradiated patients that are very similar except for those treated early so far as the state of their disease was concerned. This would suggest that, no matter whether irradiation is begun when a small or large percentage of the duration of disease has occurred, the influence of this treatment on duration was nil. On the contrary, the data for the fifty-four cases treated with irradiation early so far as the disease state was concerned indicate that the chances of these patients having their disease long were relatively great. However, one is forced to recognize that it is a case of this type that is apt to last a long time without any special treatment These fifty-four cases usually developed slowly, so that though a long time occasionally occurred from onset to diagnosis, during the interval progress was slight. In many other cases a more rapid progress occurred, and though it may have taken the same long time for the patient to *obtain a diagnosis, the disease, unfortunately, was relatively* advanced and so treatment was not begun until late Furthermore, any case among those treated by irradiation early so far as the disease state was concerned can be paralleled by a similar case of like duration that was not treated with irradiation or not given such treatment until a far-advanced stage of the disease had been reached Thus, in spite of the fact that patients irradiated when lymphoblastoma had progressed but little have lived with their disease relatively long, there are reasons for not attributing this desirable circumstance to the therapy alone.

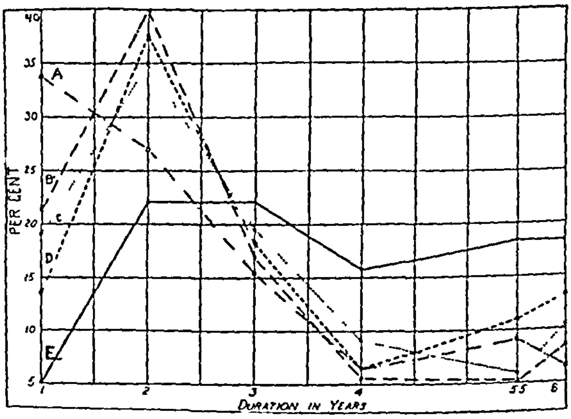

Chart 11 —Percentage frequency of the duration of lymphoblastoma in groups of patients selected with reference to when roentgen ray or radium treatment was first begun *A*, 163 patients not treated with roentgen ray or radium, *B*, 184 patients treated late, with reference to the character of the disease, *C*, 157 patients not treated early, irradiation therapy started after 33 per cent of the disease had passed, *D*, eighty-one patients irradiated early (38 per cent of all irradiated) in that treatment was begun before 33 per cent of the total duration of the disease (in each case) had occurred, of the eighty one, 22 per cent had surgical treatment, *E*, fifty four patients irradiated early (22 per cent of all irradiated) so far as the disease state was concerned; nineteen of the fifty four (35 per cent) also had surgical treatment

CONCLUDING COMMENTS ON THERAPY

There is, of course, no question but that lymphoblastoma lesions may regress in size either spontaneously or as the result of irradiation There is evidence also that the administration of arsenic, perhaps especially in the form of one of the newer arsphenamine-like preparations, can influence favorably the patient and the size of his lesions However, this happens much more frequently and as a rule is more marked following irradiation than occurs naturally or after treatment with any drug. Likewise, though the lesions may remain small for from weeks to years, they are much more apt to do so for a long time when irradiation has been given than when it has not. Such treatment is undoubtedly valuable since it improves the patient's efficiency and alleviates symptoms. The present methods of irradiation are better than former ones because the dangers of heavy and too constant dosage have been learned, the amount given can be controlled accurately, and roentgen-ray sickness and undesirable effects on the marrow minimized. In spite of the fact that the statistics for groups of cases show that irradiation has not prolonged significantly the duration of lymphoblastoma, it does seem as if in certain instances it did so. Besides cases of this sort cited above, one cannot help being impressed by the fact that patients with lymphoblastoma and apparently near death constantly are seen to be relieved by irradiation, and at times even restored to apparently normal health. For example, large masses in the thorax may cause partial suffocation; the patient becomes desperately ill, and irradiation appears to prevent death at that time. Perhaps some extension of life can be attributed to such therapy when death is at hand from a mechanical cause, especially when developing relatively soon after onset, and that otherwise irradiation does not influence the progress of disease. This is similar to the prevention of death from starvation of a patient with cancer of the esophagus, by the administration of food through a stoma in the stomach. Although irradiation occasionally may influence duration desirably, it can also shorten life if not given wisely. The occurrence of such cases may counterbalance in the statistics the slightly increased duration of lymphoblastoma produced in patients with much mediastinal pressure and the like and perhaps in some first irradiated very early. However this may be, there is no definite evidence that irradiation has prolonged distinctly the duration when a group of cases is considered as a whole.

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[12] Graves S Duration of Lymphoblastoma of the Intestine, J M Research **40** 415 (Sept) 1919

[13] Holmes G W, in Case Clinics of Massachusetts General Hospital, Case 10432, Boston M & S J **191**.783 (Oct 23) 1924

Neither roentgen rays nor radon should be given in a repeated, perfunctory, routine manner. The state of the patient, his blood, and the precise character of the case all require evaluation in order to give the most suitable irradiation. Also, we have noted that the basal metabolic rate may serve as a guide to treatment not only for cases of lymphatic leukemia but also for the other forms of lymphoblastoma. Irradiation seems desirable when the metabolism is elevated. This may occur when lesions are small and when treatment would not be considered wise so far as their size alone is concerned. Such matters are not for discussion here, but it is pointed out that although the statistical data have been obtained without taking into account the nature of the case as regards the location of the initial lesions or what parts of the body are prominently involved, there are some differences for the duration of lymphoblastoma according to the particular mode of onset and developments of the pathologic process. These differences do not appear to cause any essential change in the facts presented in the contrasted data, as the variety of types of cases composing contrasted groups were similar, except as have been described.

The value of surgical treatment of lymphoblastoma is not to be neglected. Surgical intervention relatively late in the disease is of very problematic use and best never be considered. However, it is logical, as Yates and Bunting[14] have shown, to expect benefit from complete, not partial, removal of the diseased tissue, especially in that type of case that appears to have a single seat rather than multiple places of origin. There is some rather definite evidence at hand that, following incomplete surgical removal of lymphomatous masses, the disease then may spread with greater rapidity than if no operation had been done, and wounds of such tissue tend to heal sluggishly. Unfortunately, the opportunity for radical surgical treatment early is infrequent, as these patients usually do not obtain a correct diagnosis for many months after the onset of their illness. It is, indeed, a striking fact that patients with lymphoblastoma, particularly when some external lymph nodes are but slightly enlarged, or none appear to be, form a group that puzzles many physicians. A correct diagnosis of a form of lymphoblastoma made only when a case is far advanced is vastly too common.

The data in table 2, as well as other information, do suggest that early complete removal by surgery of lymphoblastoma offers patients an opportunity for life extension and perhaps actual cure. Surgery most certainly is not to be employed indiscriminately, nor had it best be used for merely partial removal of lymphoblastomatous tissue in the body. Following operation, the administration to these patients of suitable irradiation appears wise.

SUMMARY

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At all ages except at the age of puberty the number of males exceeded the females, and a relatively large percentage of women had the condition at or near the time of the menopause.

The duration of lymphoblastoma in the females was apt to be longer than in the males. It tended to be longer in men over 35 years old and in women under 25, than in younger males and older females, except when the latter were from 33 to 44 years of age.

Comparisons between the lengths of the course of disease in irradiated and nonirradiated patients do not indicate that such treatment significantly affects the duration of lymphoblastoma. It may do so in selected cases and yet can be blamed, in cases of short duration in the patients that were below the age of 24, for the greater incidence of those in which irradiation was given than those in which it was not.

The chances of lymphoblastoma lasting long were relatively great for those first irradiated when their disease was in an early stage. However, the duration of any such case can be paralleled by one given no special form of therapy.

Surgery probably can influence beneficially the duration of some cases of lymphoblastoma, particularly if it is employed early and thoroughly and is followed by irradiation.

The type of case usually treated early by surgery or by irradiation is apt to be the same as that destined by nature to last a long time.

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tion of lymphoblastoma in the present series was seventeen and three-fourths years. The patient was a girl, aged 12 at the onset of her illness, and she never was treated by irradiation or surgery. The diagnosis was established by microscopic examination of an excised lymph node thirteen years before her death. Intermittently for years there was swelling of nodes in the neck, with a slow involvement of other nodes and enlargement of the spleen. Finally, two years before death, essentially all external and internal nodes became enlarged.

Among the patients whose disease was termed lymphosarcoma is one who had a tumor of this sort removed by resection of a portion of the small intestine at a time when no other evidence of disease existed. Following the operation, this patient had no symptoms for seven years. Then there appeared multiple masses in the abdomen with enlargement of nodes in the groin, and she died nine years after the onset of symptoms. Similar instances are reported in the literature,[12] but none with such a type of lymphoblastoma have lived so long after initial symptoms except following surgical treatment. Thus it seems logical to attribute the long duration to surgical intervention. Another patient, one with a lymphosarcoma of the rectum, appears now entirely well, after very complete treatment with irradiation that was last administered five years ago. A somewhat similar state of affairs holds for a patient whose lesion has been confined to the neck, and for another in whom the disease was in the nasal region. The mediastinal case of long duration, first treated with roentgen rays early, has been reported by Holmes.[13] After the cases in table 2 had been listed, it was noted that no surgical procedure was undertaken on those of long duration called pseudoleukemia. The reason for this is simple to understand; namely, this type of lymphoblastoma becomes generalized early, so that at the time the patients are seen or a diagnosis made there is no single local lesion for operation.

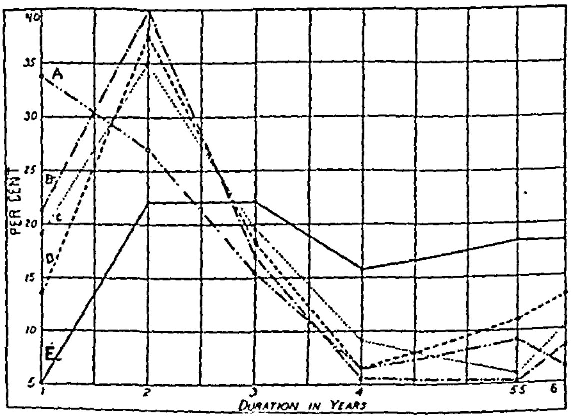
DURATION OF CASES IN WHICH IRRADIATION WAS DONE EARLY

A survey has been made concerning the duration of lymphoblastoma in cases selected because it was believed that the patients had had early and adequately continued irradiation treatment. These patients are now all dead. Fifty-four were selected to compose one group because they first received irradiation early so far as the disease state was concerned; i. e., when relatively local, when toxemia signs and symptoms and the like had not occurred. A second group of eighty-one cases was chosen because irradiation was begun before 33 per cent of the duration of each patient's illness had occurred (i. e., for example, two months or less for disease with a duration of six months; two years or less for disease with a duration of six years).

The frequency of the different durations of lymphoblastoma for each of these two groups is contrasted in chart 11 with that for: (1) 184 cases treated with irradiation late in the course of the disease so far as its character was concerned; (2) 157 cases treated with irradiation after 33 per cent of the disease duration had taken place; (3) 163 cases not treated with irradiation.

The length of the disease in those irradiated and not so treated has been shown for half-year periods in chart 6, and is shown in chart 11 for yearly periods. No further comment of a comparative sort on these data is required.

The data yield curves for the different groups of irradiated patients that are very similar except for those treated early so far as the state of their disease was concerned. This would suggest that, no matter whether irradiation is begun when a small or large percentage of the duration of disease has occurred, the influence of this treatment on duration was nil. On the contrary, the data for the fifty-four cases treated with irradiation early so far as the disease state was concerned indicate that the chances of these patients having their disease long were relatively great. However, one is forced to recognize that it is a case of this type that is apt to last a long time without any special treatment. These fifty-four cases usually developed slowly, so that though a long time occasionally occurred from onset to diagnosis, during the interval progress was slight. In many other cases a more rapid progress occurred, and though it may have taken the same long time for the patient to obtain a diagnosis, the disease, unfortunately, was relatively advanced and so treatment was not begun until late. Furthermore, any case among those treated by irradiation early so far as the disease state was concerned can be paralleled by a similar case of like duration that was not treated with irradiation or not given such treatment until a far-advanced stage of the disease had been reached. Thus, in spite of the fact that patients irradiated when lymphoblastoma had progressed but little have lived with their disease relatively long, there are reasons for not attributing this desirable circumstance to the therapy alone.



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The average duration of lymphoblastoma in the 401 deceased patients was 2.76 years, yet about 10 per cent of both the irradiated and nonirradiated had the disease for six or more years. A greater percentage of the seventy-six living patients have had lymphoblastoma this long duration of time. Although among them the frequency of surgical and early irradiation treatment is greater than for the deceased group, the treatment by modern methods will explain at the best but partially the increased percentage of cases of long duration.

Irradiation is undoubtedly of great value to patients with lymphoblastoma; it alleviates symptoms, decreases the size of lesions, and improves the patients' efficiency, in spite of the fact that it does not appear to influence importantly the duration of the disease.

OBSERVATIONS ON THE ETIOLOGY OF TUMORS

AS EVIDENCED BY EXPERIMENTS WITH A CHICKEN SARCOMA *

JAMES B. MURPHY, M.D.
NEW YORK

In a series of papers published between 1911 and 1916, Rous[1] and his associates described a group of transplantable sarcomas of the chicken which could be transmitted from fowl to fowl by means of a cell free filtrate. The nature of these agents was not determined, but the natural deduction was that they belonged to the class of ultramicroscopic organisms. The main objection to this deduction was the high degree of specificity both in the animals affected and in the type of differentiation induced in the tissue. From these points it seemed more likely that the agents were closely associated with the mechanism controlling cell growth and differentiation than with an extraneous organism.

Recently, Gye[2] has reported experiments which he interprets as proving the presence of a living organism as the cause of malignant disease. According to him, this organism is active only in conjunction with a specific chemical factor which determines the animal species and tissue infected.

The basis for this theory is as follows: A piece of one of the chicken sarcomas mentioned above, when placed in a special culture medium and incubated in the absence of oxygen, in the course of a few days loses its power to produce a tumor. If, however, the clear supernatant fluid from such a "culture" is mixed with a fresh filtrate of the chicken tumor in which the tumor producing agent has been killed by chloroform, this mixture is now capable of inducing a typical malignant tumor of the chicken. Furthermore, similar "cultures" of rat, mouse and even human neoplasms in conjunction with the chloroform killed extract of the chicken sarcoma are equally potent in inducing a malignant change in the tissues of chickens. Gye reports that the organism of the chicken tumor may be subcultured through a number of generations and still be active when injected along with the so-called specific chemical factor. It is significant that these subcultures were made with the same type of medium employed for the initial "culture," but with the addition of a generous supply of embryonic tissue.

The fundamental nature of the problem involved has led us to examine the experimental proof on which this theory is based. The only source of the so-called chemical factor up to the present has been a filtrable chicken tumor. The supposed organism has been obtained from a variety of neoplasms, but in Gye's original publication no mention was made of control cultures of normal tissues.

The present report has to do with this point.

METHOD

Throughout the experiments we have attempted to follow in detail the methods used by Gye in his investigation.

Medium.—Hartley's broth was used as the base. To this was added 0.2 per cent potassium chloride and sufficient sugar to give a concentration of 0.7 per cent. The medium was tubed in 5 cc. amounts and sterilized. Then to each tube was added 1 cc. of fresh rabbit serum, and they were incubated for forty-eight hours to test the sterility.

Filtration.—The transmissible chicken tumor was the same one as that used by Gye in his experiments (chicken tumor 1). It was prepared in the usual way by grinding the fresh tissue with sand and adding about 50 cc. of Ringer's solution for each gram of tumor material used. The suspension was centrifugalized and the supernatant fluid filtered through a coarse Berkefeld filter (Gye used a sand and paper pulp filter).

The filtrate was placed in large test tubes in 10 cc. amounts, and to each was added from 0.15 to 0.2 cc. of chloroform, which was allowed to flow down the side of the tube so that a layer remained on top of the filtrate. In this condition the tubes were placed in a water bath at 36 C. for one-half hour, and then the filtrate and chloroform were thoroughly mixed and the tubes returned to the water bath for three hours. The amount of chloroform used was sufficient to insure a saturated solution with an excess, as shown by the fact that an appreciable amount was still present in the form of fine droplets in the bottom of the tube at the end of incubation. The chloroform was next boiled off in a vacuum at room temperature, and the fluid was ready for use.

Experiment 1.—A filtrate was prepared from a rapidly growing chicken tumor, and a portion of this was submitted to the chloroform treatment. An equal amount of the filtrate was added to the supernatant fluid of each of the following: eight day culture of chicken tumor 1; four day culture of chicken tumor 9,[3] and a four day culture of mouse placenta. Five cubic centimeters of each mixture was injected into the pectoral muscle of a Plymouth Rock hen. For control, 5 cc. of the chloroform treated filtrate was likewise injected into a hen. Thus the control received twice the amount of treated filtrate given to the test fowls. The activity of the untreated filtrate was likewise tested.

No tumor resulted from the injection of chloroformed filtrate alone, but rapidly growing typical sarcomas developed in the chickens receiving this filtrate mixed with the culture fluids of chicken tumor 1 and chicken tumor 9, and also with the culture fluid of mouse placenta. The latter tumor developed just as early and grew just as rapidly as did the other two.

Experiment 2.—The general technic of this experiment was the same as the foregoing. Of six chickens injected with 5 cc. of a mixture of equal parts of chloroformed filtrate of chicken tumor 1 and the supernatant fluid of a forty-eight hour culture of rat placenta, four developed typical tumors. Two of these progressed fairly rapidly, one grew slowly, and the fourth after a period of growth retrogressed following the removal of a piece for section. This last proved microscopically to be a typical sarcoma.

Of two chickens injected with 5 cc. of a mixture of equal parts of the chloroformed filtrate and the untreated filtrate of chicken tumor 9 (a nonfiltrable tumor), one developed a rapidly growing sarcoma of the type of chicken tumor 1.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

[1] Rous, Peyton: J. Exper. Med. **13**: 397, 1911. Rous, Peyton; Murphy, J. B., and Tytler, W. H.: A Filtrable Agent the Cause of a Second Chicken Tumor, an Osteochondrosarcoma, J. A. M. A. **59**: 1793 (Nov. 16) 1912. Rous, Peyton; and Murphy, J. B.: J. Exper. Med. **19**: 52, 1914.

[2] Gye, W. E.: Lancet **2**: 109 (July 18) 1925.

Two chickens inoculated with 5 cc. of the chloroformed filtrate, twice the amount received by the test chicken, showed no evidence of tumor.

Experiment 3.—The general technic was again the same. Each of four chickens received 5 cc. of a mixture in equal parts of chloroformed filtrate of chicken tumor 1 and the supernatant fluid of a five day culture of chicken embryo. Three developed tumors, two rapidly progressive with extensive metastases at necropsy, and one slowly progressive, the hen being still alive.

Three chickens received 5 cc. of a mixture of chloroformed filtrate of chicken tumor 1 and the fluid from a five day culture of rat placenta. Of these, one developed a progressive tumor.

For controls, two fowls received 5 cc. of the chloroformed filtrate, again, twice the amount given the test fowls. They have remained free from tumors.

There are several additional experiments of the same nature, not yet completed, in which tumors have already developed from the treated filtrates mixed with fluid from cultures of embryo and placenta. In all cases the chloroformed filtrate alone has proved inactive.

In all experiments, the cultures were incubated under strict anaerobic conditions.

Placenta and embryonic tissue were selected for the control culture for the reason that they share with malignant tissue the ability to utilize sugar in their metabolism in the absence of oxygen.[3] This seemed important in view of the possibility that the substance activating the chloroform treated filtrate might be a product of metabolism.

COMMENT

Apparently the power to activate a chloroformed filtrate cannot be considered as proof of the action of a living organism, for cultures of embryonic tissue or placenta are just as potent in this respect as so-called cultures of malignant tissues.

Two possibilities present themselves in explanation of the results attained. First, that the causative agent of the chicken tumor is in the nature of an enzyme-like substance which is inactivated by chloroform and may be reactivated by a diffusible substance from malignant tumors, embryonic tissues and placental tissues. The second possibility is that the chloroform treatment does not destroy but simply attenuates the causative agent to a point at which unaided it is too weak to induce a tumor but in conjunction with some injurious or stimulating substance supplied by the "culture" it becomes effective. The fact that a great excess of chloroform so completely destroys the agent that no reactivation is possible is rather in favor of the latter possibility. Further experiments are in progress to elucidate these points.

SUMMARY

Anaerobic "cultures" of chick embryo and rat placenta have proved just as effective as so-called cultures of malignant tumors in activating chloroform treated filtrates of a chicken sarcoma. The necessity of assuming a cultivated living organism in the interpretation of Gye's results is eliminated.

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[3] Murphy, J. B., and Hawkins, J. A.: J. Gen. Physiol. 8: 115 (Sept.) 1925.

Qualifications of Public Health Nurse.—In order to undertake the multiplicity of duties that have been assigned to her, both in nursing and public health methods, a healthy body and human interest in her work, "tact, insight, a feeling heart, a quick mental grasp of persons and situations, dignity, persuasiveness—these things come by grace of nature."—Cumming, Hugh: *Pub. Health Rep.* **41**:380 (Feb. 26) 1926.

THE RELATION OF ANAPHYLAXIS TO IMMUNITY

STUDIED BY PASSIVE SENSITIZATION IN DOGS

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One of the debated questions in immunology is the relation of acquired hypersusceptibility to acquired immunity. Is hypersusceptibility an expression of an incompletely developed immunity, being possibly even a necessary integral part of the immunity mechanism? Or are the two processes wholly unrelated, independent expressions of toxic injury and bodily adaptation to foreign products?

Among serologists, the debate has narrowed down to a question of the identity or nonidentity of the specific precipitin and the so-called specific sensitizing antibody. Several observers have noted that the power of a rabbit antiserum to produce passive sensitization in guinea-pigs varies with its precipitin titer. Others have noted that in rabbits active sensitization is synchronous with the appearance of a certain definite amount of precipitin in the serum. Many serologists therefore believe that the sensitizing antibody and precipitin are identical, and that small amounts of precipitin give hypersusceptibility, larger amounts conferring immunity.

We have thought to throw light on this question by studying the relationship between the sensitizing antibody and the immune antibodies in the dog, an animal not yet used in such comparisons.

TECHNIC

To do this, one series of dogs was sensitized to horse serum by the routine method adopted in our laboratory.[1] A second series was immunized by from ten to twelve subcutaneous, intraperitoneal or intracardiac injections of 0.25 cc. of horse serum per kilogram of body weight, given at intervals of from four to six days. Transfusion tests were made from fourteen to twenty-one days after the final immunizing dose.

In dogs anaphylactic serums and immune serums usually gave approximately the same precipitin titer.

PASSIVE SENSITIZATION

Anaphylactic Donor.—If a normal dog is exsanguinated as completely as possible, and its blood volume restored by transfusion from an anaphylactic donor, the transfused dog becomes typically hypersensitive. Twenty-four hours later, on intravenous injection with 1 cc. of horse serum per kilogram of body weight, there is a typical fall in arterial blood pressure, typical contractions of smooth muscle structures, typical cyanotic engorgement of the abdominal viscera, and a complete loss of blood coagulability. Recovery is usually complete in from thirty to sixty minutes.

Immune Donor.—If in a similar way from 5 to 80 per cent of the total blood volume of a dog is replaced by transfusion from an immune donor, no suggestion of specific hypersusceptibility is conferred on the transfused animal. On a routine test, twenty-four hours later, there is no fall in arterial blood pressure, no engorgement of the abdominal viscera, and no reduction in blood coagulability.

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[1] Manwaring, W. H.; Chilcote, R. C., and Hosepian, V. M.: J. Immunol. 8: 233 (May) 1923.

This differs markedly from published results with rabbits and guinea-pigs, in both of which a passive transfer of from 10 to 25 per cent of the total serum volume from an immune donor renders the normal animal typically hypersensitive, in many cases sufficiently so to give fatal anaphylaxis.

CONCLUSION

In dogs, therefore, the difference between the sensitizing antibody and the immune antibody is not merely a quantitative one. The two antibodies apparently have wholly different physiologic properties.

PRACTICAL VALUE OF EXAMINATION FOR ENDAMEBA HISTOLYTICA BY CULTURE *

J. H. ST. JOHN, M.D.
Captain, Medical Corps, U. S. Army
WASHINGTON, D. C.

The discovery of a successful method [1] for the cultivation of *Endameba histolytica* has given the medical profession a valuable aid in the management of amebic dysentery. The following exerpts from my experience may serve to exemplify the worth of the procedure.

1. Patient F. C., Walter Reed General Hospital, had had amebic infection for about ten years. Several years prior to his admission, a colostomy had been performed in a civil hospital for the purpose of treatment by irrigation. Motile amebas, containing red blood cells, were present in the stool and in the colostomy wound. Study of the movements and structure of the nucleus provided additional proof that the ameba was undoubtedly *E. histolytica.* Culture in this case was positive in twenty-four hours, and the ameba recovered was identical with that observed in direct examinations. By subculturing every forty-eight hours, this ameba has been carried in culture for the last four months.

2. Patient A. P. had had amebic infection. Physical examination and operation revealed a liver abscess, which was opened and drained. Many examinations of the feces had been made for amebas by the usual procedures, but none ever had been found. A culture of the feces, however, disclosed an ameba, typically *E. histolytica.* This ameba has been maintained in culture for the last three months.

3. In a survey of apparently healthy men, cultures of sixty-one stools were taken from as many individuals. Amebas corresponding in morphology to *E. histolytica* were recovered in six, an incidence of 9.8 per cent. Previous examinations by direct smear preparations were negative in five of the six instances. These amebas have been in culture for a period of two months.

4. In cultivation of a specimen received by mail, a stool, 48 hours old, contained a moderate number of cysts of *E. histolytica.* Motile amebas, *E. histolytica,* were recovered in culture at the end of twenty-four hours' incubation. The stool was placed in the icebox, and subcultures were taken after a lapse of eight days, when motile amebas were again recovered.

Theoretically, the multiplication of amebas in culture and their settling to the bottom by gravitation should give at one and the same time the equivalent of an examination of a large sample of feces by one of the methods of concentration. In practice, this is exactly what takes place. The practical value of this finding rests in the use of the cultural method for diagnosis in questionable cases, and in the control of treatment.

The simplicity of the preparation and use of the culture medium for amebas recommends it to any laboratory. It is prepared as follows: Four whole eggs are broken into a sterile receptacle. Fifty cubic centimeters of sterile Locke's solution [2] is added, and the whole emulsified. The emulsion is then distributed in about 10 cc. portions to suitable test tubes, inclined and heated to about 70 C. until solidified. They are then sterilized in the autoclave for twenty minutes at 15 pounds pressure. To this solid medium is now added the liquid component, so that a layer of the liquid covers a whole or part of the slant. The liquid component is sterile, inactivated human or horse serum diluted seven times its volume with sterile Locke's solution. The medium is inoculated by rubbing up against the wall of the tube a selected sample about the size of a pea. The medium should have been previously warmed to body temperature and sterility insured by incubating several days prior to its use. The culture is examined by taking a drop of fluid from the bottom of the tube with a capillary pipet.

The differential diagnosis of the amebas encountered in culture is beyond the scope of this note; however, after long study I have reached the conclusion that the movement and form taken in movements are sufficiently characteristic of the large strains of *E. histolytica* to aid materially in its identification. The rate of movement in culture, calculated from that of four active specimens, is 27.9 microns to the minute, or slightly less than 1½ inches a day. The form assumed while in motion is that spoken of as "band form"; that is, the long diameter is two or more times that of the transverse. So characteristic is the movement of *E. histolytica* that any entozoic ameba obtained from man in culture which is found to move actively across the field of the microscope should at once incite a strong suspicion that the ameba in question is *E. histolytica.*

The culture medium also contributes materially to the assets of the systematic student of the amebas of man and to the epidemiologist. To the investigator, a way is opened for more extensive research into the biology of the organisms than has been possible in the past. To the epidemiologist, an effective instrument is offered for the detection of carriers of *E. histolytica* and thus indirectly assistance in the control of the spread of the disease. It is probable that the application of the cultural method to surveys of the population will necessitate a revision upward of the incidence of amebas in man.

The field of the cultural method for the detection of amebas, therefore, is wide, and it is confidently expected that, through the use of this medium, a wealth of discoveries will be forthcoming in the very near future. Undoubtedly, this discovery of Boeck and Drbohlav marks another milestone in the history and conquest of amebic dysentery and is worthy of a place along the path blazed by Lösch, Koch and Kartulis, Schaudinn, Councilman and Lefleur, Craig, Vedder and Walker and Sellards.

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* From the Department of Preventive Medicine and Clinical Pathology, the Army Medical School.

[1] Boeck, W. C., and Drbohlav, Jaroslav: The Cultivation of Endamoeba Histolytica, Proc. Nat. Acad. Sc. **2**, No. 5 (May) 1925; Am J. Hyg. **5**: 371-407 (July) 1925.

[2] Locke's solution consists of: distilled water, 1,000 cc.; sodium chloride, 9 Gm.; calcium chloride, 0.24 Gm.; potassium chloride, 0.42 Gm.; sodium bicarbonate, 0.2 Gm., and glucose, 1 Gm.

ERROR OF BASING SERUM DIAGNOSIS OF SYPHILIS ON THE KAHN REACTION ALONE *

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It is so well known and generally recognized that the Wassermann test may at times yield a falsely negative reaction in syphilis that it is not my purpose here to discuss the subject except to state that improvements in technic have reduced their occurrence to a minimum, this being especially true of the Kolmer complement-fixation test. But the question of falsely positive reactions has been discussed at even greater length, so that the impression generally prevails that the occurrence of falsely positive Wassermann reactions is even more common than falsely negative reactions. This is certainly not true of the Kolmer complement-fixation test, as experience has shown conclusively its specificity for syphilis, as indicated by the recent review of Kilduffe.[1] The Kolmer test has been used in this clinic for about four years, and in no instance can falsely positive reactions be said to have occurred. But the Kolmer test may occasionally yield a falsely negative reaction, as is true of all complement fixation tests for syphilis, although in my experience it is the most sensitive complement-fixation test evolved for the serum diagnosis of syphilis, which preserves intact the more important factor of specificity. It is to be understood, however, that these remarks are based on tests conducted by the quantitative method of Kolmer and not by modifications of his technic or the use of his new antigen in other methods. The only modification introduced by him since the method was published in 1922 is the routine removal of natural antisheep hemolysin, which has still further increased the sensitiveness of the reactions. Many, but not all, of the reactions reported on in this communication were conducted with this improvement in technic.

Just as there have been numerous modifications of the Wassermann test in the last twenty years, many different serum precipitation tests for syphilis have been proposed since Michaelis[2] discovered the phenomenon in 1907. During the last five years, interest has been greatly increased by Sachs, Georgi and Meinicke in Germany, Dryer and Ward in England, Vernes in France and Kahn in the United States. In this country, the Kahn test has commanded most attention; in a series of comparative tests in Kolmer's laboratory by Dr. Max Strumia,[3] it was found one of the most satisfactory. Since then, Kolmer has had the Kahn precipitation test conducted as a routine with all specimens submitted to his laboratory from the clinic of Dr. Schamberg and other services in the Polyclinic Hospital, believing that the serum diagnosis of syphilis was best served by conducting both tests with each serum.

TABLE 1.—*Observations in Fifty Cases of Treated and Untreated Syphilis Yielding Positive Kolmer and Negative Kahn Reactions*

Case	Diagnosis	Kolmer Reaction					Kahn Reaction			Treatment
		0.1	0.05	0.025	0.005					
C. R.	Tertiary syphilis	4	4	1	—	—	—	—	—	None
S. C.	Tabes dorsalis	4	4	4	—	—	—	—	—	None
A. C.	Latent syphilis	3	2	—	—	—	—	—	—	Over one year
G. D.	Latent syphilis	1	—	—	—	—	—	—	—	About six months
B. F.	Latent syphilis	1	—	—	—	—	—	—	—	Thirteen injections neo-arsphenamine
D. H.	Latent syphilis	1	—	—	—	—	—	—	—	None
J. S.	[illegible]	4	4	4	—	—	—	—	—	Yes; amount unknown
E. D.	[illegible]	2	2	1	—	—	—	—	—	Five injections neo-arsphenamine
G. E.	[illegible]	2	3	—	—	—	—	—	—	Over five years
M. C.	Latent syphilis	4	4	4	—	—	—	—	—	About one year
E. C.	Gumma periosteum	2	2	1	—	—	—	—	—	None
E. L.	Latent syphilis	4	4	4	—	—	—	—	—	Several months
T. F.	Latent syphilis	4	4	4	—	—	—	—	—	Over three years
J. W.	Latent syphilis	3	—	—	—	—	—	—	—	Eleven months
D. H.	[illegible]	3	2	—	—	—	—	—	—	Two years
H. B.	[illegible]	1	—	—	—	—	—	—	—	Over four years
F. M.	[illegible]	2	1	—	—	—	—	—	—	None
E. T.	[illegible]	4	4	4	—	—	—	—	—	None for two years
L. B.	Latent syphilis	1	—	—	—	—	—	—	—	None
E. B.	Tabes dorsalis	3	2	1	—	—	—	—	—	None
M. B.	Latent syphilis	2	—	—	—	—	—	—	—	None
L. M.	Latent syphilis	2	1	—	—	—	—	—	—	Treatment four years ago
S. P.	Latent syphilis	1	—	—	—	—	—	—	—	Treatment several years ago
E. S.	[illegible]	2	1	—	—	—	—	—	—	None
T. W.	[illegible]	2	—	—	—	—	—	—	—	None
J. K.	Congenital syphilis	2	—	—	—	—	—	—	—	None
G. L.	Latent syphilis	4	4	4	—	—	—	—	—	Several years ago
P. D.	Tabes dorsalis	2	1	—	—	—	—	—	—	None
J. S.	Latent syphilis	1	—	—	—	—	—	—	—	Amount unknown
J. H.	Latent syphilis	4	4	2	—	—	—	—	—	None
R. W.	Latent syphilis	2	1	—	—	—	—	—	—	None
R. N	Congenital syphilis	1	—	—	—	—	—	—	—	None
S. A.	Latent syphilis	2	1	—	—	—	—	—	—	None
S. C.	Latent syphilis	3	2	—	—	—	—	—	—	For about seven years
E. P.	Tabes dorsalis	3	3	3	1	—	—	—	—	Two years
J. F.	Congenital syphilis	4	4	3	—	—	—	—	—	Three years
N. L.	Early tabes	2	2	1	—	—	—	—	—	Three years
M. B.	Tabes dorsalis	3	2	2	1	—	—	—	—	At intervals
A. C.	Tertiary syphilis	2	1	—	—	—	—	—	—	Few months
A. T.	Tertiary (visceral)	2	—	—	—	—	—	—	—	Several months
H. J.	Latent syphilis; negative history	1	—	—	—	—	—	—	—	None
J. K.	Tertiary (visceral)	4	4	3	—	—	—	—	—	None
C. L.	Latent syphilis	1	—	—	—	—	—	—	—	About one year
W. C.	Tertiary ulcerating gumma	1	—	—	—	—	—	—	—	About one year ago
A. M.	Late secondary	3	—	—	—	—	—	—	—	None
S. L.	[illegible]	4	2	1	—	—	—	—	—	Few months
B. B.	[illegible]	3	2	—	—	—	—	—	—	Few months
G. H.	[illegible]	2	—	—	—	—	—	—	—	None
J. B.	Optic atrophy	2	2	1	—	—	—	—	—	About three years ago
C. T.	Latent syphilis	3	1	—	—	—	—	—	—	Two years

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* From the clinic of dermatology-syphilology of Dr. Jay F. Schamberg, Polyclinic Hospital, Graduate School of Medicine of the University of Pennsylvania.

[1] Kilduffe, R. A.: Kolmer Modifications of Wassermann Reactions, Arch. Dermat. & Syph. 6: 709 (Dec.) 1922.

[2] Michaelis: Berl. klin. Wchnschr. 44: 1477, 1907.

[3] Strumia, M. M.: Study of Serum Flocculation Reactions in Syphilis, Arch. Dermat. & Syph. 8: 50 (July) 1922.

This is based on the observation that, with about 4 per cent of serums, the Kolmer reaction may be positive when the Kahn is negative or the Kolmer negative when the Kahn is positive. A number of instances of this kind have already been reported by Kelly[4] from Schamberg's clinic and Kolmer's laboratory; but since then numerous additional and similar reactions have been observed, which it is my special purpose to discuss in this paper, in order to express a note of warning against the use of the Kahn or any other precipitation test alone in the serum diagnosis of syphilis or as a serologic guide in treatment. My purpose, however, is likewise to state that the same is true of the Kolmer or any other complement-fixation test and to express the opinion that the serum diagnosis of syphilis is best served by using both tests as a routine as has been Kolmer's practice during the past year.

I have previously expressed the opinion that the Kolmer complement-fixation reaction has been found specific for syphilis in our experience, and the Kahn test has likewise shown a high degree of specificity, although weakly positive reactions are occasionally reported with the serums of individuals regarded clinically as nonsyphilitic. This is especially true when the reactions are read after the serums stand over night in a refrigerator, and I advise that reactions of this kind be regarded with some reservation in the absence of a history or clinical evidences of syphilis.

In table 1, I have briefly summarized cases regarded as syphilitic in Schamberg's clinic yielding positive Kolmer and negative Kahn reactions. In table 2 are shown an equal number in which the Kolmer reaction was reported negative and the Kahn positive. They have been listed as observed and without selection as reported to the clinic during the past year, and constitute about 3 to 4 per cent of discrepancies between the two tests. In other words, both tests agreed as far as positive or negative were concerned in from 96 to 97 per cent of the cases; but the fact that, in any particular case, either one of the tests may yield a falsely negative reaction constitutes, in my opinion, an important practical reason for conducting the serum diagnosis of syphilis by both instead of by either one alone.

Instances of discrepancies of this kind occurred in all clinical types of syphilis, although in my experience the larger number are instances of negative Kolmer and positive Kahn reactions in treated cases of syphilis. When treatment is guided by the Kolmer reaction, far more is required to produce a state of negativity than with the original Wassermann test or most of its modifications; but not infrequently the Kahn test continues to yield positive reactions even after the Kolmer reactions are negative. Whether this indicates continued infection with *Spirochaeta pallida* or merely the longer persistence of antibody in the blood cannot be stated at present, although in a number of such instances spinal fluid studies still showed a positive Kolmer reaction.

Of course it is frequently observed that the two reactions vary in the degree of positiveness, but it is impossible to compare them accurately on this basis, because they vary so greatly in technic and the immunologic principles involved. Nor is this a matter of much clinical

Table 2.—*Observations in Fifty Cases of Treated and Untreated Syphilis Yielding Negative Kolmer and Positive Kahn Reactions*

Case	Diagnosis	Kolmer Reaction					Kahn Reaction			Treatment
P. F.	Latent syphilis	—	—	—	—	—	—	2	3	Four years ago
D. F.		—	—	—	—	—	—	1	1	None
J. D.		—	—	—	—	—	—	1	1	One year
G. M.	Latent syphilis	—	—	—	—	—	—	1	1	Two years
A. M.	Latent syphilis	—	—	—	—	—	2	3	4	Two years
C. W.	Latent syphilis	—	—	—	—	—	—	2	3	None
M. M.	Latent syphilis	—	—	—	—	—	—	1	1	Considerable
R. S.	Latent syphilis	—	—	—	—	—	—	1	1	Five years
A. R.	Latent syphilis	—	—	—	—	—	1	3	4	Amount unknown
U. S.	Latent syphilis; history negative	—	—	—	—	—	1	2	3	None
W. H.	Latent syphilis	—	—	—	—	—	3	4	4	Five years
L. J.		—	—	—	—	—	—	1	1	Provocative only
M. J.		—	—	—	—	—	1	2	4	Over one year
E. H.		—	—	—	—	—	—	1	1	Three years
J. M.	Visceral syphilis (?); history negative	—	—	—	—	—	—	1	1	None
B. B.	Congenital syphilis	—	—	—	—	—	—	1	1	Two years
H. B.	Latent syphilis	—	—	—	—	—	—	1	1	Four years
R. C.	Latent syphilis	—	—	—	—	—	—	1	2	Mercury twenty-two years ago
A. G.	Syphilitic iritis	—	—	—	—	—	—	1	2	About two months
C. C.	Syphilitic leg ulcer	—	—	—	—	—	2	3	3	About two months
A. D.	Secondary syphilis (?)	—	—	—	—	—	1	4	4	None
D. J.	Latent syphilis	—	—	—	—	—	1	2	2	About two months
M. H.	Latent syphilis; history negative	—	—	—	—	—	—	1	2	None
F. S.	Tabes dorsalis	—	—	—	—	—	—	1	2	None
R. S.	Latent syphilis	—	—	—	—	—	2	3	3	One year
J. W.	Latent syphilis	—	—	—	—	—	—	1	2	About two years
E. P.	Latent syphilis; history negative	—	—	—	—	—	—	1	1	None
C. H.	Latent syphilis	—	—	—	—	—	2	3	4	About one year
C. B.		—	—	—	—	—	—	2	3	None
N. B.		—	—	—	—	—	2	4	4	Six months
B. E.		—	—	—	—	—	—	1	2	None
W. F.	Tertiary syphilis	—	—	—	—	—	—	2	3	None
T. W.		—	—	—	—	—	—	1	1	Two and one-half years
R. W.		—	—	—	—	—	—	1	2	Two and one-half years
H. D.		—	—	—	—	—	—	1	2	None
M. F.		—	—	—	—	—	2	3	4	Three years
L. L.		—	—	—	—	—	—	1	1	Amount unknown
H. M.	Latent syphilis	—	—	—	—	—	—	1	1	Five years
E. M.	Cerebrospinal syphilis	—	—	—	—	—	—	1	1	One year
H. B.	Tabes dorsalis	—	—	—	—	—	2	2	3	Six years
A. B.	Latent syphilis	—	—	—	—	—	—	1	1	Five years
L. M.		—	—	—	—	—	2	3	3	None
J. H.		—	—	—	—	—	—	1	1	Several years
A. R.		—	—	—	—	—	—	1	2	None
N. L.		—	—	—	—	—	2	3	4	Four years
M. B.	[illegible]	—	—	—	—	—	2	3	3	Three years
E. W.	[illegible]	—	—	—	—	—	—	1	2	Amount unknown
M. D.	[illegible]	—	—	—	—	—	—	1	2	Amount unknown
R. S.	Latent syphilis	—	—	—	—	—	1	2	2	Three years
G. G.	Visceral syphilis	—	—	—	—	—	2	2	2	None

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[4] Kelly, R. L.: Clinical Study of Kahn Precipitation Test and Kolmer Complement-Fixation Test, Arch. Dermat. & Syph. 12:720 (Nov.) 1925.

importance; and it is of infinitely less importance than the question of a true and specific positive or negative reaction regardless of the degree of positiveness.

I hope, however, that the instances listed in the tables will serve to indicate the mistake of using the Kahn test alone for the serum diagnosis of syphilis. I believe it is particularly necessary to publish data of this kind at present, in view of the fact that some may be induced to use the Kahn or other precipitation test alone in the serum diagnosis of syphilis. It is true that under acceptable conditions the two tests agree so far as positive or negative reactions are concerned, but in the best interests of the serum diagnosis of syphilis both the Kolmer and the Kahn tests should be employed.

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MODIFICATION OF PRESENT METHODS OF GASTRODUODENOSTOMY *

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The increasing interest in pyloric resection and its growing importance as a method of treating ulcerations of the stomach and duodenum are matters of common knowledge. Furthermore, there is the mounting conviction that in suitable cases some form of pyloroplasty or gastroduodenostomy is the operation of choice. Unfortunately, until quite recently the choice of operations of this type was comparatively small. The Billroth I operation, the Finney pyloroplasty and the physiologic pyloroplasty of Horsley for many years offered the only satisfactory surgical means of restoring the normal physiologic relations of the stomach after resection of an ulcer at the pylorus or in the duodenum. The Billroth I operation fell into a rather undeserved disrepute, and in the latter two operations ordinarily half the pyloric ring remained intact, which may possibly be a disadvantage, for certain it is that there is a marked delay in emptying in many cases following pyloroplasty.

In 1923, Finney [1] reported an operation for gastroduodenostomy independently of von Haberer,[2] whose paper had appeared the previous year (fig. 1 *a*). In this operation the end of the stomach was sutured to the side of the dodenum after the end of the duodenum had been inverted. This operation marks a distinct advance in surgery at the pylorus and of course adds to the available methods. Horsley [3] reports an interesting modification of the Billroth I operation, which he has practiced with satisfaction for some time. This procedure involved splitting the duodenum in the long axis for a short distance and flaring out the end to avoid occlusion of the lumen by the circular sutures of the original operation (fig. 1 *b*).

The method here described is offered only as a modification of the Finney-Haberer operation and in no sense as a new procedure.[4] Inversion of the duodenal stump is always a source of some concern, and inversion with subsequent reopening, as in the Finney-Haberer operation, does not seem necessary in all cases. This inversion uses up at least 2.5 cm. of the available duodenal length, and where mobilization is so important—a fact repeatedly emphasized by Finney—

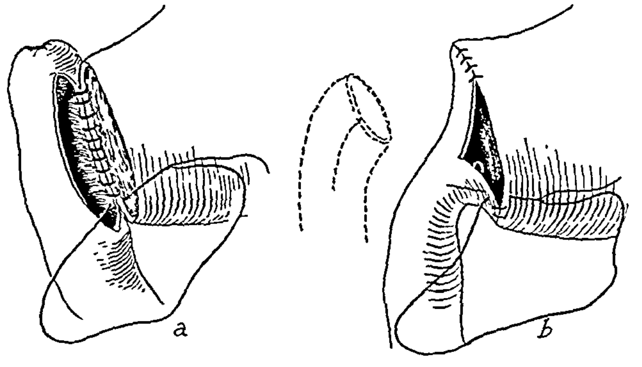

Fig 1 —*a*, Finney gastroduodenostomy, showing inverted end of duodenum impinging on new stoma; *b*, Horsley's modification of Billroth I operation.

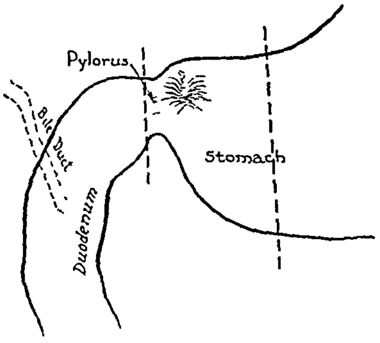

Fig 2 —Ulcer on gastric side of pylorus and area to be resected

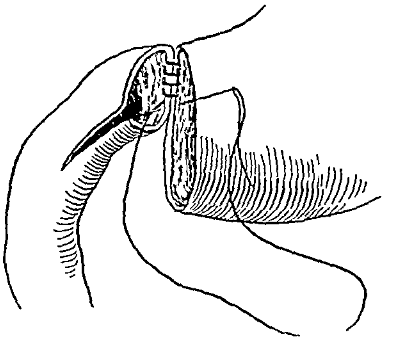

Fig 3 —Beginning suture of duodenum to posterior wall of stomach at lesser curvature and longitudinal incision started

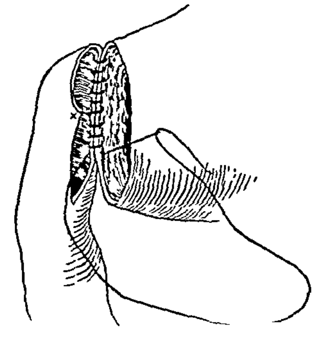

Fig 4 —Posterior row almost completed, *x*, small tab of duodenum, which is trimmed off before suturing

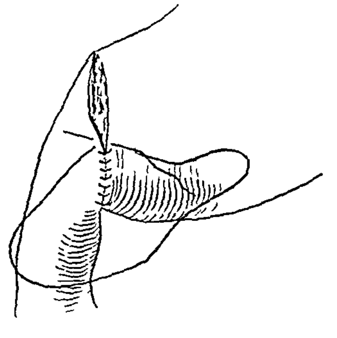

Fig 5 —Anterior wall being closed: general relations and appearance at end of operation

this distance can sometimes ill be spared. In addition, the inverted duodenal stump may become edematous and partially obstruct the available lumen—this fact has been noticed frequently in dogs. It seemed advisable, therefore, to preserve the entire length of available duodenum for suture, and figures 2, 3, 4 and 5 illustrate the method evolved. This procedure was carried out repeatedly on animals two years ago. Starting at the lesser curvature, the end of the duodenum is sutured to the stomach by any method the operator may prefer. When half of the circumference has been used in this way the duodenum is split in its long axis about 1 cm. from its attachment, for a distance sufficient to make the opening correspond exactly to that of the stomach. The small angular tab shown in figure 4 is trimmed off. The posterior suture being completed, the anterior wall is closed in the usual manner. The blood supply is not interfered with in any way and is entirely adequate.

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* From the Surgical Department of the Johns Hopkins University Medical Department

[1] Finney, J M T Tr South S A **36**: 576, 1923

[2] Von Haberer, H · Deutsche Ztschr. f. Chir. **172**: 1-77, 1922

[3] Horsley, J S Surgery of Stomach and Small Intestine, Surgical Monographs, New York, D Appleton & Co, 1926, pp 222.

[4] Babcock reports splitting the inner side of the duodenum with combined end to end and side to side anastomosis of duodenum to stomach, and gives a diagram (Am J. Obst & Gynec **9**: 473 [April] 1925).

Opportunity has presented itself to use this method in only one clinical case, but the patient's postoperative course was so perfectly smooth that a brief report seemed justified. At operation the patient presented a perforating ulcer on the lesser curvature about 2 cm from the pylorus. The duodenum could be mobilized readily. The pylorus and pyloric antrum were resected and the technic described above was carried out with a minimum of difficulty.

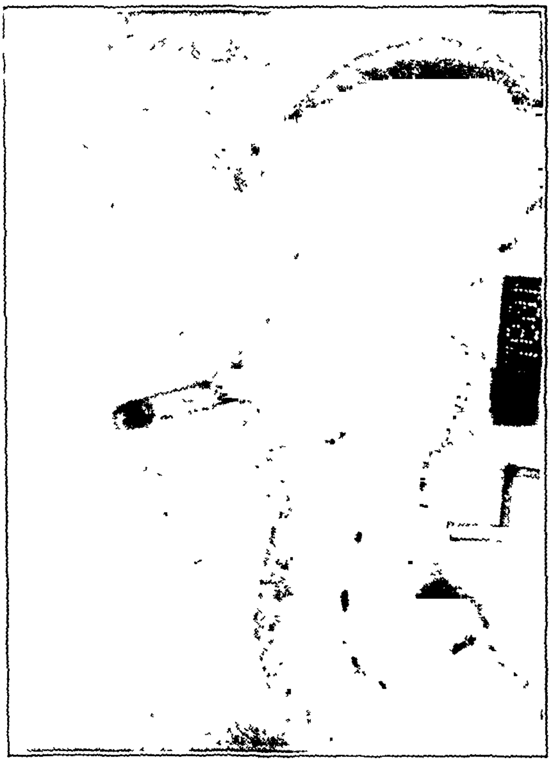

Fig 6.—Rapid emptying one week after operation in case treated by modified gastroduodenostomy.

The patient's postoperative course was quite uneventful. There was no vomiting, no elevation of temperature, and no evidence whatever of retention. A roentgen-ray examination one week after operation showed a perfectly normal emptying time—less than five hours. Figure 6 shows the result of this immediate examination. Gastric analysis done at the same time showed a marked reduction in free acid and practically no regurgitation of bile.

Figure 7 shows the result in a patient on whom a Finney-Haberer operation had been performed. The emptying time here too was normal.

CONCLUSION

The modification of the Finney-Haberer gastroduodenostomy here described offers further choice of procedures for restoring the normal physiologic relations of the stomach after operations that have involved resection of the pylorus.

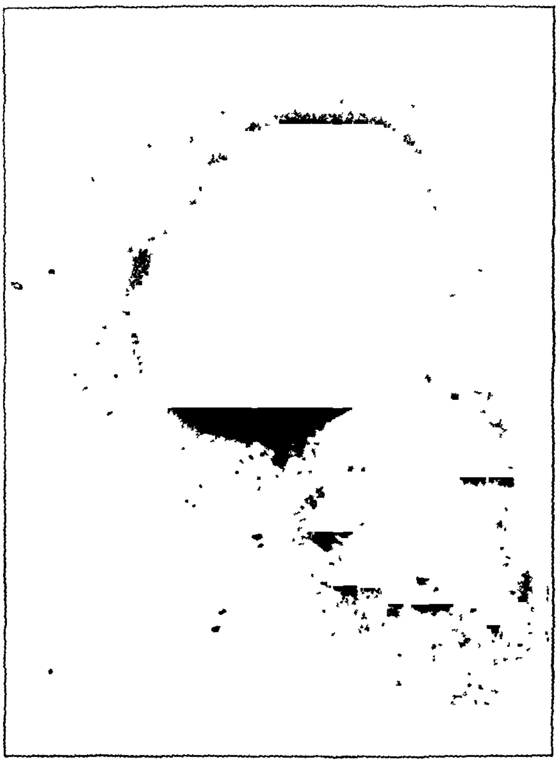

Fig 7.—Examination made two weeks after operation in case treated by Finney-Haberer gastroduodenostomy.

Disease as Regarded by Ancients.—If we look back to ancient medicine we find everywhere the same essential picture, disease regarded as the work of demons or of magic, and a corresponding treatment by the aid of incantations, charms, and exorcisms. Side by side with these demonological conceptions and therapies, however, there existed a certain number of simple surgical practices, and a herbal lore in which, among masses of extraordinary and revolting ingredients, one finds the names of drugs of undoubted efficacy, and value. The Ebers papyrus (1550 B. C.) for example, describes the incantations used in Egyptian medicine, but it also contains a list of remedies including such familiar drugs as opium, hyoscyamus, squills and castor oil. The records of Babylonian medicine show a similar demonological view of the causation of disease, and detail the litanies and incantations necessary for its treatment. Diagnosis is closely connected with astrology, and is made by the interpretation of omens. "In the Old Testament disease is an expression of the wrath of God, to be removed by moral reform, prayers and sacrifice." Yet in both these cases there is ample evidence of the use of simple surgical, herbal and hygienic measures, apparently without relation to the supernatural conceptions applied to disease in general. It is, perhaps, legitimate to assume that the former originally developed on a basis of empirical observation essentially identical with that on which the structure was ultimately to be erected.—Hart, Bernard: *Lancet* **1**:586 (March 20) 1926.

A COMPARATIVE METHOD FOR DEMONSTRATION OF NORMAL DEVELOPMENT IN INFANCY

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Is it desirable for medical students to become more systematically familiar with the normal? In connection with the general course in pediatrics, given at the Yale University School of Medicine, I recently had opportunity to test the feasibility of demonstrating to junior students the developmental characteristics of normal infants. The present paper is a stenographic report of one session devoted to the clinical demonstration of two pairs of normal infants, respectively 4 and 6 months, and 6 and 9 months of age.

This session was followed by a clinical demonstration of mental deficiency in infant subjects. It was our purpose, in the comparative examinations, to clarify the nature of developmental retardation by a preliminary presentation of normal characteristics; and also to illustrate the principles of developmental diagnosis.

From the standpoint of developmental diagnosis we are primarily interested in all those forms of behavior, mediated by a nervous system, which are coherently related to the attained maturity of that nervous system. We may conceive such behavior as being a functional index of developmental status. An infant is as old as his behavior.

In this sense the mind becomes an observable object within the scope of developmental diagnosis.

For several years we have been attempting at the Yale Psycho-Clinic to determine behavior norms of infancy, and to define diagnostic procedures which might enable us to make objective estimates of developmental status in early life.[1]

A few of these procedures are illustrated in the comparative examinations described below. The conditions of the examination were simple. Two ordinary, normal infants were brought into the pit of the clinical amphitheater by their mothers. The mothers seated themselves side by side at two small tables, the babies in their laps. The spontaneous behavior of the babies was noted and compared.

While the infants were thus seated facing the student group, psychologic test material was served to them in duplicate. One clinical assistant was assigned to each child, and the test situations were presented simultaneously, in order to bring the behavior reactions of the children into immediate, comparative relief.

The convincingness of the demonstration depended, of course, on the actual behavior of the children, which is only imperfectly suggested by the accompanying illustrations. The comparative situations and the comments made on them were substantially as follows:

NORMAL BEHAVIOR AT FOUR AND SIX MONTHS

The purpose of this demonstration is to show the importance of the comparative method in developmental diagnosis.

A law of contrast apparently controls clinical perception and clinical judgment. It is difficult either to see or to evaluate symptoms of development as isolated phenomena. They take on definition and meaning only when seen in terms of a higher or lower level of development; that is, in comparative terms.

Systematic comparison is a fundamental scientific procedure. It is of especial value in the elusive field of development. We cannot measure development with mathematical precision, but we may descriptively formulate successive levels of development and we may bring these levels into diagnostic comparison. We may do this whether we are concerned with normal or subnormal manifestations.

Naturally, our basis of reference is the normal or median child. Our true norms or standards must be sought in a study of the normal. Next week it will be time to see mentally retarded subjects. Today we shall observe infants who are making normal progress on their developmental journey but who have not covered the same distance. One is two months "ahead" of the other. If you will compare their behavior you will see a discrepancy. That discrepancy is a measure of the difference in their developmental status. Developmental diagnosis deals with just such comparative differences.

Ordinarily the physician diagnoses one individual at a time. Now, however, two are being scrutinized. One is estimated or measured by means of the other.

You see at once the usefulness of the comparative method of approach because without your willing it, I think, your perception is sharpened by the fact that you can bring two infants into simultaneous comparison. You observe a certain control and poise in the senior infant (aged 6 months) compared with the perfectly normal, but wobbling equilibrium of his junior (aged 4 months). This confers a certain aspect of sedateness and poise on the older child which is a valid clinical impression. This more advanced motor control is a behavior difference, correlated, of course, with the greater maturity of the nervous system of the older child.

[Each baby is lifted in turn. And then they are placed side by side on the tables, to show the difference in sitting posture.]

If I hold these babies and just lift them in order to get the tension feel, I detect a difference that is motor in character, as the result of a greater tonicity and reactiveness in the postural control of the older child, who is in fact much farther along in the mastery of the sedentary posture, in which students are quite skilled. This baby, if he is carefully placed, will momentarily maintain a sitting posture. This is scarcely possible with the 4 months old child, and it will be noticed that nature has therefore conferred a little more solicitude on the part of the mother of the 4 months old child, who is a little less ready to release her protective hold. Naturally so, because the baby is not quite so independent as yet. There is a certain nicety in this adjustment of relation between the mother and child which asserts itself all along the growing period, in conformity with the increasing independence of the child as he matures.

[The examiner demonstrates a difference in the rigidity of head posture by placing the baby's head between the palms and gently exerting pressure to right and left, and then forward and backward.]

Now there is another item worthy of inspection under certain diagnostic conditions comparable to the one just referred to; namely, the resistance of the head to lateral pressure and to pressure backward and forward. We have no precise objective measure of this resistance.

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[1] The norms of development and their diagnostic applications are described by Gesell, Arnold: The Mental Growth of the Preschool Child: A Psychological Outline of Normal Development, Including a System of Developmental Diagnosis, New York, The Macmillan Company, 1925.

However, you see that there is a difference in the fixity and rigidity of the head control in the case of the two children at this level of development; and since the lack of attainment of postural control of the head is an important symptom of mental retardation in early infancy, this item of observation is well worth considering.

[The babies are placed in the dorsal position, and the spontaneous movements are noted. The babies are then placed in the prone position to show the difference in postural response.]

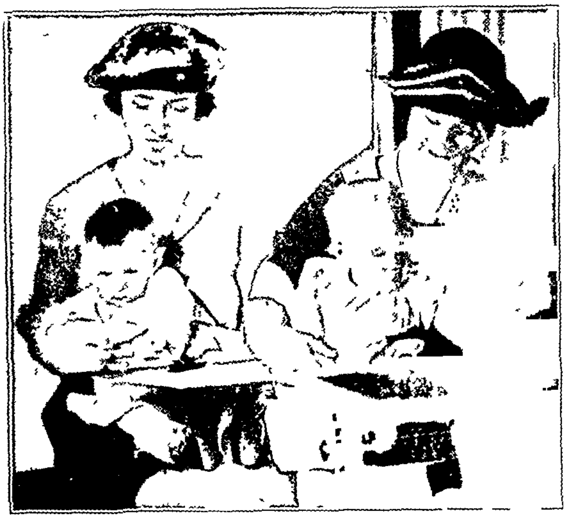

Fig 1.—Normal children, aged 4 and 6 months, side by side for comparison. Tests were simultaneously made to bring out comparative differences in behavior and developmental status.

It will be noted that these babies do not disport themselves in just the same manner while they lie here, in the dorsal position. There are significant differences in the scope and character of the movements of both arms and legs.

The prone position is worth testing in children about whose developmental status one has any doubt, and it will be noticed that at 4 months there is already considerable capacity in the erection of the head. The 6 months child is still farther along; his shoulders are above the table, and one can see the beginning of the creeping posture.

[Each clinical assistant takes a small red ring (4 inches in diameter), suspended from a string, and dangles it before the infant, within easy reach.]

Now something very significant may be witnessed. At 6 months one sees characteristic direct reaching. At 4 months, when the ring is dangled, there is a cruder closing-in reaction in which the coordination is much less under visual control. The directness, the accuracy and the promptness of response are less. This child at 4 months is really somewhat advanced beyond the average level in this reaction. He is just at the brink of reaching, and if by happy chance or by casual contact he touches the ring, the reaction is one which simulates reaching, but which is not true reaching. The difference in the perfection between these two responses is very significant from a normative point of view.

[Each infant is now held in a sitting position and brought slowly toward the table until his hands are within favorable range of the edge of the table, or just touch the table surface.]

Perhaps you are waiting for me to perform a test. Well, this is the test. The question is, How do these two babies react to the table surface? A marked behavior difference may be noticed here. The 6 months old child is aggressive. He playfully exploits the table surface and the table edge. The hands of the 4 months old child are rather idle in this situation. You may say he is inhibited by your presence. I think not. I think his failure to exploit the table is due to his immaturity. His neuromuscular mechanism has not advanced to that stage which is characteristic of the 6 months old child, and therefore he gives only casual heed to the table surface. If his hands touch the table they are likely to linger there, which itself has some significance. He may sometimes perform in a way that simulates a patting motion, but his present restricted reactiveness is the characteristic behavior observed under the more normal conditions of the examining room.

[The infants are still seated in their mothers' laps, facing the table A spoon is placed before each infant. The attention of the infants to the spoon is noted. The spoon is then shifted to the edge of the table, and each examiner brushes it from the table, so that the spoon falls to the floor. The reaction of the infants to the disappearance of the spoon is likewise noted.]

Now we are going to test the perceptual reactions of our subjects—the perceptual capacity. You are certain that the 6 months old baby sees that spoon and he is making a reaching response toward it. We also have definite evidence of regard for the spoon on the part of the 4 months old child. We see the regard expressed in the fixation of facial and ocular muscles; but it is a rather transient regard, certainly not the prolonged attention which this 6 months youngster is showing.

We are still dealing with neuromuscular mechanisms, because the whole perceptual process is a motor process as well as a sensory one, and we are also dealing with symptoms of mental adaptation. We have before us an objective difference—a clinical cleavage with respect to attention, when the mental adjustment of the younger infant is compared with that of his more mature senior. Now, it is clinical cleavages like this that we are interested in. We are trying to formulate behavior differences in such a way that they will enable us to record descriptively and analytically developmental status, and thus take the problem of mental growth somewhat out of its present state of elusiveness.

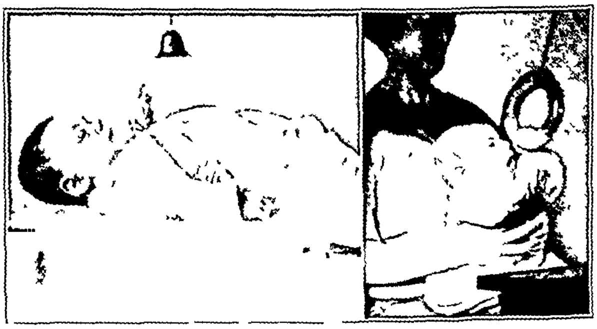

Fig 2.—The 4 months old infant lies down and looks at a stimulating object; the one 6 months old sits up (with support) and reaches for the object

Now please note the difference in behavior, when the spoon suddenly falls to the floor. The 6 months old baby is transiently aware of the disappearance of the spoon; gives heed, so far as we can infer, to its disappearance. The 4 months old baby may also "miss" the spoon, but in a different manner. Neither child pursues a quest for the vanished object.

We must reckon here in some way with the mechanism of attention, because attention has to do with fixation, and surely it has to do with this fundamental quality of projection, or of prolongation of interest which we often call concentration. When we bring in our 9 months old infant we shall doubtless see a projection of interest which can well be considered as a kind of inquisitiveness into the fate of the dropped spoon.

[One by one, several small disks of diminishing size are placed on the table before each child. The first disk is a large wooden button, 4 cm. in diameter; the last in the series is a small pellet, 0.5 cm. in diameter.]

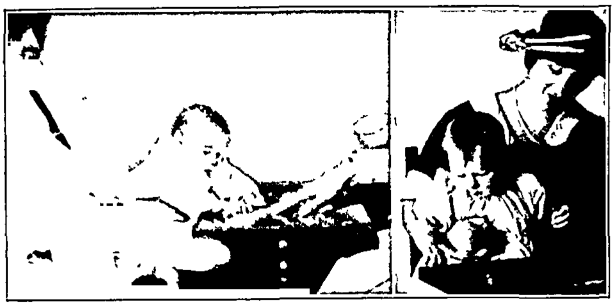

Fig. 3.—Prehension: The 6 months old infant scoops up a small pellet with his palm; the 9 months old infant picks it up with forefinger and thumb.

We come back to the question of perceptual reactions and present a series of disks, graduated in size. This simple test indicates that the size of the stimulus and the age factor influence the perceptual response.

The visual fixation of the 4 months old child is elicited by the larger buttons. A reaching response, as well as visual regard, is aroused in the 6 months old child. The 4 months old child does not pick up any button. The 6 months old child picks up the larger buttons with ease, but as we approach the smaller sizes we get into his difficult zones. The typical 9 months old infant can pick up this smallest pellet with fairly adept prehension. At 6 months we get characteristically a visual regard for the pellet, and not infrequently a palmar scoop reaction which results in a raking in of the pellet. But we are never very much alarmed or surprised if, under favorable conditions, he fails to make a manual approach on this tiny pellet.

[A piece of paper, 8 by 10 inches, is presented to the 4 months old child and pressed into his hands. A similar piece of paper is presented to the 6 months old child. The difference in the playful activity of the babies with the paper is noted.]

The 4 months old child does not reach for the paper even when it is very favorably presented. That is, he does not actively reach for it. At 5 months we have observed that paper favorably placed in this manner will be attained by the child. The 6 months old infant seizes it directly. The 4 months old infant, however, will grasp the paper if it is pressed into his hand. Both children "play" with the paper. But the degree and the quality of manual exploitation of the paper are distinctly superior in the 6 months old infant.

Taken by itself, this observation is not of much importance; but, comparatively interpreted, it is an objective item that may contribute to our diagnostic estimate. The 4 months old infant is apparently below the level of the 6 months old infant both in play interest and in play capacity.

Does your baby play with toys? we ask the mother of the younger child, and she answers, No. Does he play with his hands? Yes. He has just begun to hold them up for playful inspection. In this way he is perfecting the neuron connections which bring eye and hand into coordination for the reaching-on-sight, which becomes so prominent in the behavior picture at the age of 6 months.

We question the mother of the 6 months old child and find that he plays with toys—a rattle and a rubber doll. He has not, however, acquired any domestic tricks, such as waving bye bye. These acquisitions, as symptoms of normal development, come somewhat later, as we shall see. We must not expect too much; but we may say that, from the standpoint of norms or standards, the average 6 months old babe is competent to play with a rattle. Even one such item may have a normative value in constructing an estimate of developmental status.

Summing up, we may say that the behavior of both these babies rates up to the expected level. In actual performance and in the quality of their reactions, both subjects are normal. It has been our purpose to give a clear-cut comparative view of the normal behavior characteristic of two closely adjacent age levels. Only two months separate these children chronologically. If, however, this 6 months old baby today, under our tests, had behaved consistently like our 4 months old baby, we should have to infer a grave degree of retardation. Constitutional retardation expresses itself early. The time clock is an important factor in determining normality of development. Attained development is a true index of prospective development. Within judicious limits, even infants must measure up to certain standards.

NORMAL BEHAVIOR AT SIX AND NINE MONTHS

[A 6 months and a 9 months old infant are next brought in, and observed in the same comparative manner as the previous pair. Their postural control and their spontaneous reactions to the new situation are first noted.]

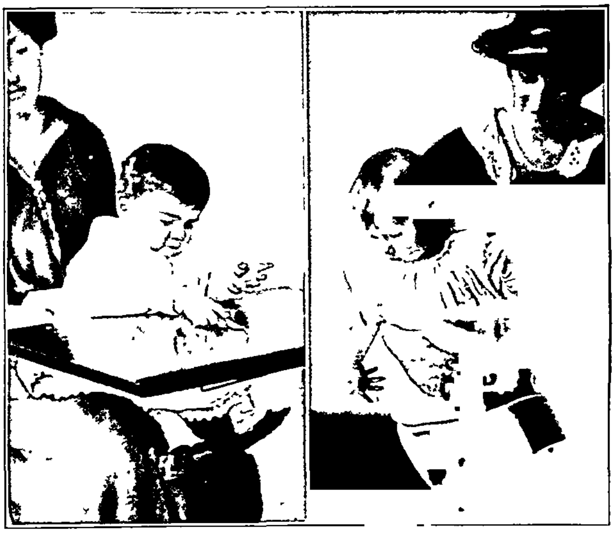

Fig. 4.—Memory and attention: The 6 months old infant shows a transient awareness of the disappearance of a spoon, when it is dropped on the floor; the 9 months old infant shows a definite follow-up interest.

The ages of these infants are, respectively, 6 months and 9 months. We might have used the same 6 months old subject as before for this comparison, but it is just as well to have another representative. We may be pretty sure that his behavior will approximate that of his predecessor.

Three months makes a difference. It will be noted by the behavior of the 9 months old infant as he is brought into the room that we shall have to be duly considerate of his emotions. We are dealing with a more highly socialized individual. By several tokens he has already shown that his social maturity, his personality, is on a perceptibly higher level. The 6 months old child is sensitive to persons, but not to the same degree or to the same extent as the 9 months old child.

Postural control is definitely more advanced in the older child. The mother is holding him much less securely. In fact, he is maintaining a sort of independent position in the lap. His head control is more advanced. This may be noticed when he turns his head, as he frequently does toward his mother, as though seeking assurance. But he is becoming rapidly adjusted to his new situation.

When placed on the table, the 6 months old child cannot sit without support. The 9 months old child can.

On the first comparative examination, it was the 6 months old child who seemed posturally steady, but now the situation has altered. It is the six months old child who seems to lack equilibrium by contrast with the 9 months old. This suggests the significance of comparative and normative procedures in developmental diagnosis.

[The children are seated in their mothers' laps at the tables. A spoon is proffered to each one simultaneously to elicit the reaching and prehension responses. The spontaneous play with the spoon is noted. The spoon is then withdrawn from the child's hands, is placed near the edge of the table and suddenly brushed from the table onto the floor, to determine whether there is any follow-up interest on the part of either child.]

A definite difference will be observed in the reaching response. The 9 months old infant reaches with more directness, particularly overhead. His reaching is also more unilateral in character; right handed differentiation is asserting itself. When the spoon is placed on the table, he picks it up with perceptibly greater skill. He exploits it more elaborately in play, and resists withdrawal of the spoon. He is audibly expressing his "impatience" or his desire to play some more with the spoon. He was quietly content a few minutes ago; but having been keyed up to playing, he wishes to continue. A kind of circular reaction is at work.

We promised you a comparison with the 9 months old infant in the fallen spoon situation. Here you have it. The 6 months old infant betrays merely a dim, fleeting awareness of the sudden disappearance; the 9 months old child shows a follow-up interest by promptly looking down on the floor in quest for the spoon.

[A small pellet (0.5 cm. in diameter) is placed before each infant, to note the character of the prehension.]

This simple but rather interesting test clearly reveals the advance which has been made in the prehensory apparatus; that is, in the concealed part of the apparatus; namely, its neuronic organization. In the 6 months old infant there is still a rather crude scooping reaction by simultaneous flexion of the digits and cupping of the palm. In the 9 months old infant there is a more precise pincer-like prehension, bringing the forefinger and thumb into opposition on the pellet.

[A small wood cube is offered to each infant as before; then a second, and a third.]

You observe that the 9 months old infant holds two cubes with more readiness than his junior partner. He also shows more interest in a third proffered cube. Sometimes the 9 months old child will acquire the third cube, by dropping one in hand, or holding two in one hand, or by a prehensile reach with his mouth. This means, of course, that the scope of attention is widening. In another year this child will take and retain almost as many of these cubes as you can offer him.

[The table is cleared. One of the small cubical blocks, an enamel cup, and later a piece of paper are presented to each infant to elicit spontaneous play behavior.]

You note that the 9 months old child makes a more vigorous playful attack on the table, when only the table surface is the stimulus. He also plays more elaborately with the block and the cup. He shoves the cup back and forth or brings it up to his mouth, or bangs the block against the cup. At the age of 1 year he may repeatedly place the block into the cup in his experimental activities, but this is quite beyond his powers now.

The range and general character of the playful exploitation of the sheet of paper indicate the greater psychologic maturity of the 9 months level, compared with the 6 months level.

One can also detect a greater social maturity in his responsiveness to your presence and to your laughter. You may describe this as greater interest in the social environment. This interest shows itself in numerous ways in his domestic life. He is more communicative than his junior; he is more sensitive to communication; he has assimilated more from his personal surroundings. We ask the mother, "Does he say anything?" "Yes, mama and dada." "Does he wave bye bye?" "Oh, yes!" "Has he learned any tricks?" "Yes, he can put a handkerchief over his head, when you tell him."

Behavior items like these are good indicators of what is going on in the growth of the child's nervous system. Not only do they suggest an increase of intelligence but a development of the countless social habituations, emotional trends and attitudes which steadily build up what we psychologically designate as "personality." Mental growth is permeated with conditioning factors. It is interesting to note that this particular 9 months old child is at present so conditioned that he will wave bye bye to his father, but to no one else.

The differences we note in the behavior of this pair of infants are therefore differences not only of intelligence but also of personality make-up. This comparative view may serve to remind us that there are arrests, retardations and deviations in the sphere of personality development as well as in the development of intelligence.

The comparative or normative approach, therefore, is essential to the task of developmental diagnosis. We cannot evaluate behavior altogether on its own merits but only on its comparative merits, with scrupulous regard for the age factor. Both of these children have made relatively normal developmental progress; but reverse the behavior pictures, so that the senior member of the pair reacts like the junior member, and there is a syndrome that may justify a diagnosis of mental subnormality.

COMMENT

The pediatrician, accordingly, must take a critical interest in norms of development. Such norms are the objective standards for deriving a clinical judgment in all situations requiring a diagnosis of developmental status.

Development, as well as disease, falls within the scope of medicine. Development may be studied from purely anatomic and physiologic points of view. But it may also be studied through the functional index of behavior. By the comparative method, we have tried to demonstrate that this index is a lawful one and therefore clinically significant. We have also, perhaps, suggested one way in which a study of the normal may be incorporated into medical instruction.

185 Edwards Street.

Clinical Notes, Suggestions, and New Instruments

AUTOTRANSPLANTATION OF A TOE FOR TRAUMATIC LOSS OF A FINGER

JOSEPH E. FULD, M.D., NEW YORK

Nicoladoni[1] was the first to describe the autoplastic transplantation of a toe for the traumatic loss of a finger. He successfully performed and described an operation in which he replaced a thumb by transplanting the second toe. Since then very few cases of successful transplantation of toes to replace lost fingers have been reported.

Fig 1.—Amputated finger.

REPORT OF CASE

G. S., a man, aged 30, while operating a bread-slicing machine, Sept. 18, 1925, accidentally amputated the distal third of the middle finger of his right hand. The wound being recent and clean, I considered this a favorable opportunity to attempt grafting a toe to replace the missing finger. The day following the injury, the patient was placed under ether, and after exceptional care of the surgical field, I made an incision at the level of the head of the fifth metatarsal bone, transversely across the dorsum of the small toe of the right foot, deepened through, exposing the extensor tendon. This was cut across and the bone disarticulated. The incision was carried farther until the toe was left attached to the foot by only a pedicle plantar flap, consisting of skin subcutaneous tissue, plantar vessels and flexor tendon. The dorsal skin edge of the stump of the finger was freshened. The end of the extensor tendon was sutured to the distal end of the extensor tendon of the toe, and the dorsal skin edge of the finger was sutured to the distal dorsal skin edge of the toe. This necessitated complete immobilization of the parts with the hand in constant juxtaposition with the foot. Plaster of Paris was not used, it being found that complete immobilization could be made by properly placed adhesive plaster and gauze bandages. The patient was placed in a Gatch bed, which permitted flexion of the body to almost an upright sitting position. This gave a fairly comfortable position and relieved tension on the bandages. I am of the opinion that at least two weeks is necessary, with constant attention and frequent dressings, for a union to take place.

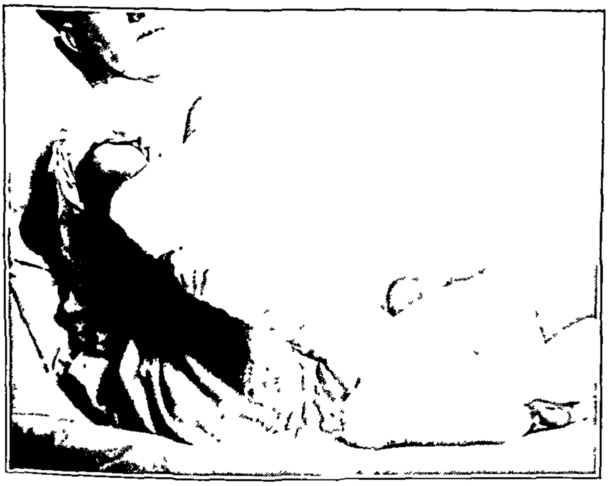

Fig. 2—Position of patient in bed, with hand and foot approximated.

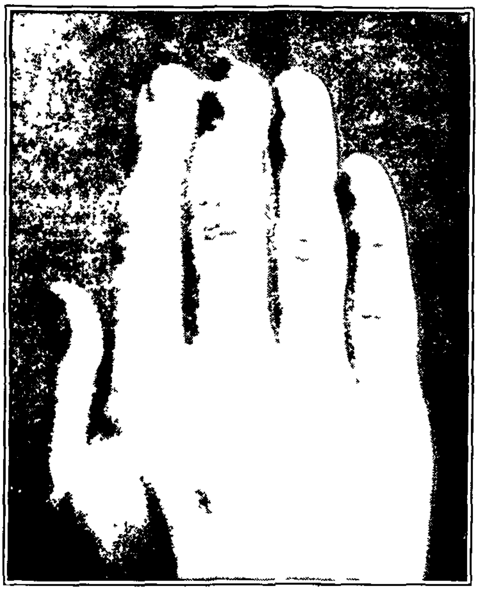

Fig 3—Appearance of hand two and one half months after transplantation of toe. The transplanted toe was long enough to extend as far as the tips of the index and fourth fingers.

The second stage of the operation was performed as follows: The pedicle flap was cut across transversely, exposing the flexor tendon, which was also cut and sutured to the flexor tendon of the finger. The skin wound was closed with interrupted sutures. Passive motion, confined to flexion, was instituted on the third day after the second stage of the operation. No hyperextension was necessary or used. The cosmetic result was satisfactory, and sufficient function was obtained to permit the closing of the hand in complete flexion. Sensibility has partially returned. The color of the skin is practically the same as the color of the other fingers.

COMMENT

The value of the operation does not consist alone in giving a more sightly hand, but in restoring the normal length of the finger. It gives to those whose occupation requires exceptional use of the fingers an opportunity to continue their work. Musicians, pianists, violinists, typists and penmen will appreciate a functionally complete member. Laborers whose chief finger is the thumb will regain the grasping power that is necessary to continue their wage earning ability.

Nicoladoni advocates two methods. The first consists in a plastic cuff from the chest, into which a graft from the tibia is transferred. This permits of abduction and adduction only, whereas in the second method a transplant of the toe carries with it the extensor and flexor tendons, which offer not only abduction and adduction, but also flexion of the new thumb, which restores in great part the grasping ability of the hand

Close application to details is essential to provide a good healthy plantar pedicle flap and the preservation of as many blood vessels as possible, the proper suturing of tendons, strict asepsis, and a careful watch to guard against hematoma, which is almost certain to become infected and destroy an otherwise perfect result. If these precautions are observed, a useful member may be added to the hand at the expense of a seemingly unnecessary toe.

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[1] Nicoladoni: Arch Clin. Surg, 1900.

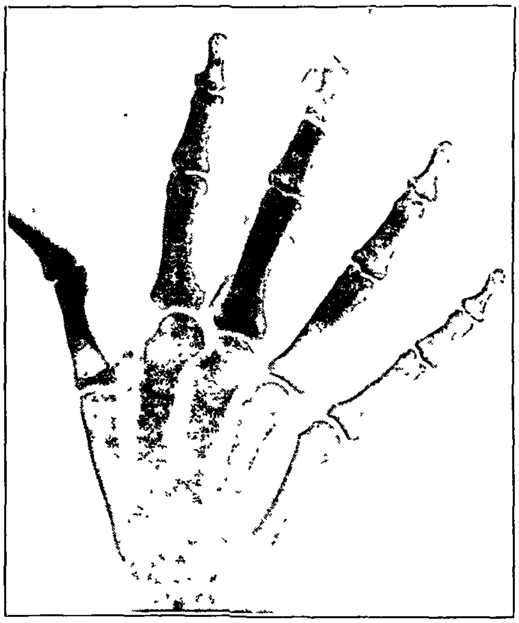

Fig. 4.—Condition two and one-half months after transplantation of toe.

995 Madison Avenue.

MODIFICATION OF TURNBUCKLE JOINT FOR TREATMENT OF SCOLIOSIS: SUGGESTION AS TO MANAGEMENT[*]

Charles N. Pease, M.D., Chicago
Assistant Attending Orthopedic Surgeon, Home for Destitute Crippled Children

In 1924, Lovett and Brewster[1] published a series of articles on the treatment of scoliosis with a turnbuckle jacket. Briefly, their principle is the application of pressure on the curved part of the spine and counterpressure on the spine above and below the apex, thus correcting lateralization and, at the same time, rotation of the spinal column. This is obtained by a jacket made from a corrected plaster torso of the patient. It is divided transversely at the level of the apex of the lateral curve, at which point a hinge is fastened. Opposite this is placed the turnbuckle and lock, which are used to separate the segments and to hold them in position, respectively.

The correction obtained with this type of jacket is exceptionally good. The question is whether or not the new position can be maintained after its removal. It cannot, unless the musculature of the trunk is developed sufficiently. It is well known that plaster jackets applied to scoliotic patients cause a marked atrophy of the thoracic and abdominal muscles, sometimes to such a degree that if the patient is allowed to stand unsupported after his jacket is removed, he goes into collapse.

In order to maintain the muscular development the patient already has and to strive to increase it if possible, he must be exercised several times a day. Many short periods of exercise are better than one or two exercise periods of long duration. This is because, in the latter case, muscle fatigue occurs, which is worse than no exercise at all. Exercising below the limit of fatigue is efficacious in the development of musculature. The present jacket cannot be removed several times a day, which is desired, because it becomes weak and is easily broken.

Therefore, I have taken the turnbuckle jacket and have divided it in the midline of the back and fastened it together with hinges. This does not alter the strength or stability of the jacket and yet allows it to be removed without breaking. As easy application and removal are thus facilitated, the patient may exercise several times a day and, during the intervals, be held in a corrected position. This, I believe, may aid greatly in solving a most important problem in the treatment of scoliosis.

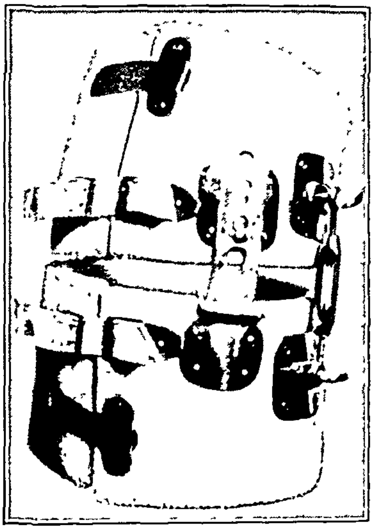

Fig. 1.—Front view of jacket, showing turnbuckle and lock.

Covering the jacket with stockinet before application of the metal parts is a suggestion received by the department of nursing at the Home for Destitute Crippled Children.

When this paper was presented for discussion, Dr. John Ridlon called attention to the fact that the divided jacket was not new, it having been used fifty years ago. Milton Josiah Roberts[2] first used it in the treatment of Pott's disease, and due credit should be given him. However, it may be stated that Lovett and Brewster used it in a different manner and were the first to use it in the treatment of scoliosis.

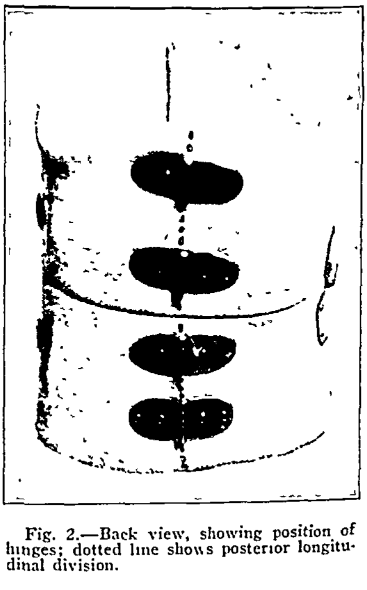

Fig. 2.—Back view, showing position of hinges; dotted line shows posterior longitudinal division.

104 South Michigan Avenue.

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[*] Read before the Chicago Orthopedic Club, Dec. 11, 1925.

[*] From the Department of Orthopedic Surgery, Rush Medical College.

[1] Lovett, R. W., and Brewster, A. H.: Correction of Structural Lateral Curvature of the Spine, J. A. M. A. **82**: 14 (April 5) 1924; Treatment of Scoliosis by a Different Method from That Usually Employed, J. Bone & Joint Surg. **6**: 4 (Oct.) 1924.

[2] Roberts, M. J.: Elastic Tension and Articular Motion in Pott's Disease, M. News, Oct. 14, 1882; Clinical Lecture on the Mechanical Treatment of Caries of the Lumbar Vertebrae, Lancet, Jan. 27, 1883.

The Athenian State Little Concerned with Education.—The school age for the boy (in Athens) began with his seventh year. Custom required that each son of a free citizen should be given instruction in gymnastics and music; but, beyond keeping an eye on the morals of teachers and the conduct of their charges, the state did not concern itself with education. It rested with the parent alone to decide how much schooling his boy should receive, and the schools were in all cases private institutions, supported by the fees of pupils.—Leonard: History of Physical Education, p. 20.

SOME NEW ASPIRATING DEVICES

L. K. Ferguson, M.D., Philadelphia
Agnew Fellow in Surgery, University of Pennsylvania School of Medicine

In an effort to increase the neatness and dispatch of an operation, to reduce infection, and to minimize the trauma and manipulation, especially in operations under local anesthesia, these aspirating devices were made. They have proved so useful that I feel justified in publishing a description of them.

The aspirator is not a new apparatus in the surgical clinic, but its application is daily becoming more general and its use, once one becomes accustomed to it, is nearly indispensable. By its use, fluids in the wound or in a cavity may be quickly removed from the field, thus keeping the operating table neat and tidy. Since the aspirator can be used in a wound to remove obscuring fluids while the operator proceeds with his manipulations, nearly obviating the necessity for sponging, the speed of an operator can be materially increased. By removing pus from cavities without spilling, a large amount of wound contamination is avoided, and healing is much more rapid. In much of the work under local anesthesia, the trauma of sponging, however slight, is painful. This element can largely be eliminated by the substitution of an aspirator for a sponge.

The aspirators shown herewith have one point in common, which is absent from most aspirators in use today. Heretofore, one was frequently afraid to insert an aspirator into a cavity, especially the abdomen, for fear some delicate body, frequently the omentum, would be sucked into the fenestra, and its removal would necessitate removal of the tip or the cutting off of the aspirated part. We have been able to overcome this tendency by the insertion on our aspirators of an air valve which can be closed or opened by the operator's thumb. This valve was originally devised by Dr. Gabriel Tucker for use on the aspirators used in Dr. Jackson's clinic. When the thumb is removed from the valve, the suction at the tip is relieved. The tips are all made with an angle so that, when the aspirator is inserted into a wound, the user's hand does not obscure the field. This feature has also allowed us to substitute them for retractors in some positions, allowing the aspirator tip to keep the field dry and also to keep obstructing tissues out of the operative site.

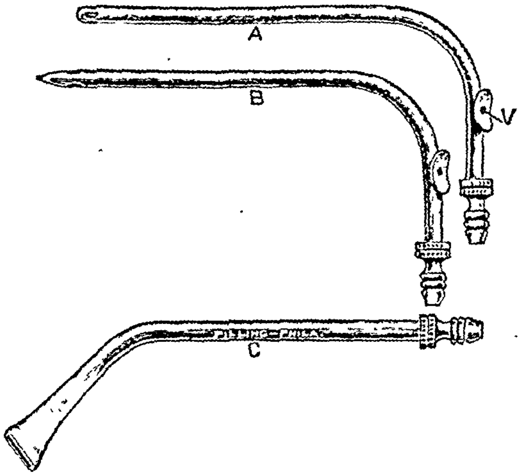

Fig. 1.—Aspirating tips.

The tips that I have devised are of various shapes made to meet various requirements. The aspirating trocar (fig. 1 *B*) is made with a sharp, round point, with fenestra close to the point. It was intended for use in fluid-containing cavities, to evacuate the cavities rapidly without spilling their contents into the operative field. The round point makes a hole in the containing wall which closely fits the aspirator tube, and with a good negative pressure in the suction circuit, no leakage occurs. As the cavity walls collapse, they may be grasped by Allis forceps and the sharp pointed tip substituted for the blunt pointed one (fig. 1 *A*) by means of which practically all the fluid can be removed.

We have employed these two tips in the aspiration of gallbladders, ovarian cysts, empyemas, liver abscesses, breast abscesses, enterostomies for intestinal obstruction, and, in short, in virtually every condition in which a fluid-containing cavity had to be opened. Depending on the size of the cavity, some time is necessary to evacuate the fluid, but this time is much less than that necessary to sponge out the wound when the fluid spills into it.

The tip illustrated in figure 1 *C* is one originally devised for aspirating in perineal operations in gynecology and obstetrics, but it has been found useful in keeping abdominal and other wounds dry. It has a broad, flat tip which allows for a rapid removal of fluids on a comparatively flat surface.

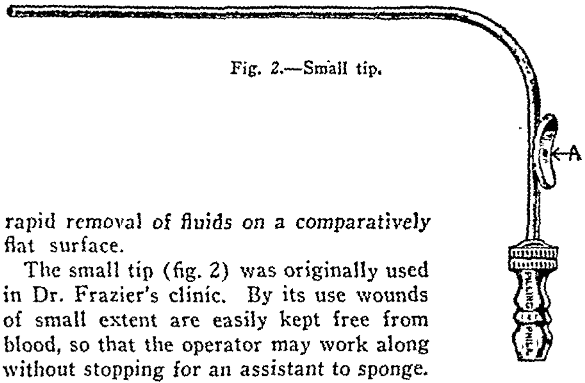

Fig. 2.—Small tip.

The small tip (fig. 2) was originally used in Dr. Frazier's clinic. By its use wounds of small extent are easily kept free from blood, so that the operator may work along without stopping for an assistant to sponge. It has proved most useful in any situation in which careful dissection is necessary, in choledochotomies and other small field work.

These tips have been adopted for daily use in the obstetric clinic of Dr. B. C. Hirst and in the gynecologic clinic of Dr. John G. Clark. In each of these clinics and in our own, a simple water pump is used to obtain the necessary suction, which is connected to a 4 liter reservoir. The water suction is cheap and noiseless, and it never gets out of order.

The nurses in our clinics are most enthusiastic over our use of the aspirators, because, by their use, considerable of their thankless labor of making sponges is reduced. The supervisor of Dr. Hirst's clinic tells me that since the use of the aspirator, the sponges in a cesarean section have been reduced from about seventy-five to thirty-five. Such a saving is an economy which is of some moment in a busy clinic.

These aspirating tips are made by the George P. Pilling & Sons Company of Philadelphia.

326 South Nineteenth Street.

A PECULIAR CASE OF TRANSMISSION OF SCARLATINA

Dean P. Crowell, M.D., Albany, Ore.

B., a boy aged 16, slept in the same bed with his brother, C., aged 14, who had scarlet fever. B., therefore, was in constant contact with his brother for two nights preceding the appearance of a typical rash, and during the usual onset with severe sore throat and high temperature. On diagnosis, the morning of the third day, B. was kept out of his sick brother's room, but remained in the same house. Eleven days after the appearance of the rash, C. left his room and associated with the family and with B. The same day an uncle, aged 35, visited in the home. Ten days after this, B. and the uncle both developed sore throat and three days later the typical rash of scarlet fever.

It seems probable that B., after being thoroughly exposed during the first three days of his brother's infection with scarlet fever, did not take the disease, but eleven days later contracted it at the same time as his uncle and then, after an incubation period of ten days, developed a typical case of scarlet fever. General symptoms were mild in all three cases, and antitoxin was not available. No other scarlatina was present in the rural district in which the cases occurred. The diagnosis of scarlet fever was not doubtful and, within thirty days, a well developed epidemic was in progress in the county.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS*

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(*Continued from page 1213*)

PERORAL ADMINISTRATION OF LIQUIDS IN GENERAL

Solid dosage forms are, as a general rule, preferable to liquid dosage not only because solids are more easily disguised but also because, in prescribing solutions, we must pay especial attention to the solubility, incompatibility, palatability, and the keeping quality of drugs. Liquid dosage is indispensable: (1) for liquid medicines the dose of which is more than a few drops; (2) for deliquescent and liquefying bodies; (3) for irritant substances, including all highly soluble substances given in fairly large doses, though some of these, especially if the dose is quite large or they are not very soluble, are best prescribed in powder form to be dissolved before taking; (4) for ease of variation in dosage—ascending or descending dosage; (5) when the patient cannot well take solid dosage forms, e. g., for children, or (6) because of somewhat greater rapidity of action.

Though all irritant drugs should be given freely diluted with fluid, which means in from a wineglassful to a tumblerful of water or watery liquid, we should, for the sake of economy, aim to make the bulk of medicines in the prescription as small as possible to be diluted before taking: for druggists charge not only in accordance with the expense of the ingredients, but also according to the size of the bottle. so that a patient has to pay considerably more for an 8 ounce bottleful containing the same active ingredients as a 2 ounce bottle. But we must not go to the extreme of preferring drop dosage merely for the sake of economy.

DROP DOSAGE

Drop dosage carries with it some uncertainty, as there is a great variation in the size of the drops, according to the capillarity constant (not the viscosity) of the fluid, the temperature, the fulness of the container. the surface from which it is dropped, and the rapidity of dropping. As drop bottles and medicine droppers vary greatly in size of orifice, the size of their drops differ. The French pharmacopeia specifies a standard medicine dropper that will yield, at a temperature of 15 C., 20 drops per cubic centimeter. With such a dropper, alcoholic fluids yield from 50 to 60 drops per cubic centimeter, according to the alcohol percentage. Ether is so tenuous a fluid that it yields 93 drops per cubic centimeter with the standard medicine dropper. Broadly speaking, drops of strongly alcoholic liquids or of volatile oils are only one-third the size of drops of water, and drops of ether or of chloroform one-fourth or one-fifth the size. On the other hand, so-called viscous fluids may have considerably larger drops than water.

Another disadvantage of prescribing drop dosage is the difficulty the average person experiences in reliably pouring or counting the desired number of drops. The simplest method is to drop directly from the bottle with its stopper partially inserted, so as to permit air to enter from above as the drops escape from below. It is well to moisten, with the fluid, the lower lip of the bottle before the dropping is started; otherwise, some difficulty is experienced at the beginning. Dropping bottles with ground glass stoppers grooved in such a way as to admit air to the bottle at one point and permit drops to escape at another point in its circumference are a great convenience but somewhat expensive. The prescriber should know that it is practically impossible to drop directly from narrow cylindric vessels, as the so-called homeopathic vials of from 4 to 8 cc. size. In such an instance the patient should be provided with a small pipet (medicine dropper) having a rubber nipple attached, which is also the least expensive and perhaps the most generally useful means of aiding patients in the counting of drop dosage of medicine. A modification of the medicine dropper, which is also usable as a container for the remedial liquid to be used in drop dosage, is obtainable. The tip of this dropper bottle is closed by means of a rubber cap, which is removed when the dropper is to be used. This is a good means of dispensing and using not only drop medication for internal use but most especially eye lotions.

In view of these disadvantages of drop dosage, it is best to prescribe drops only when "ascending dosage" is required—when the dose must be found that will give the best effect by gradual increase in its size. In such a case the variation in the size of the drop is of little importance, as the patient starts with a dose that is certainly less than the one that will ultimately be tolerated, and gradually increases it until he finds that which gives the desired result.

ASCENDING DOSAGE

In prescribing, for instance, solution of potassium arsenite (Fowler's solution) in the treatment of chorea, one may start with 5 drops to be taken three times daily after meals, and increase each dose by 1 drop daily, until the desired effect is obtained or until symptoms of intolerance manifest themselves.

In a similar manner, fluidextract of cascara sagrada may be used in conjunction with coarse diet and increased exercise in the curative treatment of constipation, by having the patient determine by experience on himself exactly the dose needed to secure not less than one and not more than two bowel movements daily. This dose may now be continued for a time—say a week—and then reduced by one-half progressively, perhaps every week, until the dose has become quite small and regularity has been established. The patient may put each dose in gelatin capsules just before taking it.

Tincture of digitalis is also frequently prescribed in drop dosage for auricular fibrillation, though best in descending rather than ascending dosage. To a patient who has not recently had digitalis substances given him and who is in great need of the remedy, as much as 60 drops of the tincture may be administered every four hours for a day or two, the effect being carefully watched; and, as soon as the desired result is obtained or untoward symptoms appear, the dose may be cut in half, soon to be still further reduced in an attempt to find the smallest dose required to maintain the therapeutic action.

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* This is the seventeenth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

Diluted hydrochloric acid is frequently prescribed in ascending dosage for patients suffering from hypochlorhydria, to find the dose that will improve digestion best without producing distress. To protect the teeth, the medicament should be given well diluted and taken by means of a glass tube or a straw.

Solution of potassium iodide (official in the new National Formulary), of such strength that each cubic centimeter represents 1 Gm. of the drug, is frequently prescribed in ascending dosage in the treatment of tertiary syphilis. It is best administered diluted in liberal quantities of milk three times daily, after meals.

Creasote carbonate is efficiently given to patients with chronic bronchitis and profuse expectoration, with or without tuberculous infection, by starting with 5 drops shaken up with milk and each day increasing the dosage by 1 drop up to 15 or more, according to tolerance.

These examples may suffice to show the importance of drop dosage in everyday practice.

Ascending dosage—progressive increase of dosage—is employed not only to determine the amount of medicament most suitable for the case in hand, but also and most especially in the process of immunization, to render the patient less susceptible to the influence of certain poisons. The all important question here is the desirable rate of increase. For rapid increase, as at the beginning of antigen (such as tuberculin, pollen toxin or vaccine) treatment, when beginning with a dose much below the one that produces "reactions," doubling the dose might be permissible until a slight reaction is obtained. As soon as this point is reached, the rate of increase will have to be much more gradual. Indeed, it is often advisable to repeat without increase the dose that produced the reaction, if it was at all severe, and then to increase the dose by a much lower rate.

For the proper grading of the further increase in dosage, especially in immunization, but also for other purposes, the common sequence of figures is unsuitable. If, for example, we were to increase the dose from 1 to 2 and then to 3, and so on, the proportion of increase will be much greater at first, when we double the dose, than later when, let us say, we increase it from 9 to 10, in which case the increase would be only by 10 per cent. To increase dosage by approximately 50 per cent, the following row of figures is convenient and sufficiently correct for practical purposes:

First dose, 0.10; 2d, 0.15; 3d, 0.20; 4th, 0.30; 5th, 0.50; 6th, 0.70.

This series may be continued indefinitely by always starting with the same fractions of a ten times more concentrated solution.

If a 50 per cent increase in dosage is too high a rate, then a suggestion made by Ernst Füld [44] might be used. Füld points out that for an approximately 25 per cent increase the following row of figures might have to be employed:

1.0, 1.29, 1.67, 2.15, 2.78, 3.59, 4.64, 6.00, 7.74, 10.00.

It will be readily seen that, by moving the decimal point, the series can be prolonged indefinitely. However, these quantities are not convenient for weighing or measuring. Hence, Füld suggests that progressive dilutions be made 1 to 8 rather than 1 to 10. From any one of these solutions two further dilutions are prepared, the one seven times (designated as solution S) and the other five times (solution F). One part of solution S is used first; then one part of solution F; next, two S, two F; then four S, four F, and next one part of S of the next higher eight times stronger solution, and so forth.

The failure to appreciate the fact that the rate of increase in an immunization process must vary, that a rate suitable at first is unsuitable later, and vice versa, frequently accounts for slow results and even failure. If the lower rate of increase necessary later is employed from the first, time is wasted and the appearance of appreciable results delayed, which may disgust the patient and lead him to discontinue treatment. If the rapid rate of increase permissible at first is continued too long, the severe reactions cause undue suffering, may even do harm, and may make the patient give up the treatment.

The proper spacing of the injections in immunization treatment is also of importance. As is well known, when an antigen is introduced into the system, it causes at first what is called a "negative phase," during which the resistance of the system to the antigen is lessened. Focal reactions in the form of increased activity of the disease process may occur at this stage. Under favorable circumstances this is followed by an increased resistance, the "positive phase," which reaches a certain height and then diminishes very slowly. If the next injection is given too soon, if it coincides with the negative phase, it will still further lessen the patient's resistance. If the intervals are too long, the process of immunization becomes needlessly drawn out. From five days to a week is probably, in most cases, the proper interval between antigen injections.

DESCENDING DOSAGE

When the desired effect has been obtained, it is often good policy to continue the medicine in gradually decreasing dosage. A simple method of accomplishing this purpose is to order the patient to replace each dose by an equal volume of water. In this manner, the content of the active ingredients per dose diminishes steadily and slowly. The rate of decrease is governed by the size of the bottle. The larger the bottle in proportion to the dose, the slower is the rate of decrease. That under these circumstances the decrease is surprisingly gradual is shown by J. R. Miner,[45] who calculates that if, for example, 40 cc. of solution is prescribed, containing 400 mg. of morphine sulphate, and 1 cc. is given at each dose, and if 1 cc. of water is added to the solution for each cubic centimeter withdrawn, then at the tenth dose the morphine content would be diminished by only one fifth, and even at the twentieth dose by less than two fifths. A stage at which the dose of the drug would be one tenth of the original would occur only at the ninety-second dose of the series. Incidentally, it should be noted that the morphine would never entirely disappear from the bottle. Morphine might be prescribed in this manner for treatment of a habitué by the gradual reduction method. The first dose would be the one to which the patient has been accustomed. Bromide is well prescribed in this manner in the treatment of "night terrors" of infants or children, a teaspoonful being put into the bottle for each teaspoonful taken. Hypnotics might also preferably be prescribed in this way.

(To be continued)

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[44] Füld, Ernst: Therap. Halbmonatsh., May 15, 1921.

[45] Miner, J. R.: Bull. Johns Hopkins Hosp. **32**: 205 (June) 1921.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, APRIL 24, 1926

THE ABSORPTION OF LEAD THROUGH THE SKIN

The special advisory committee appointed by the Surgeon General of the United States Public Health Service to determine whether or not there is a public health hazard involved in the manufacture and use of tetra-ethyl lead gasoline has made public its report, which shows that "there are at present no good grounds for prohibiting the use of ethyl gasoline as a motor fuel, provided that its distribution and use are controlled by proper regulations."[1] However helpful this report may be, it assuredly cannot be regarded as the "last word" on the subject. The committee itself clearly recognized this when it advised that with the experience obtained and the exact methods now available, it should be possible to follow closely the outcome of more extended use of this fuel and to determine whether or not it may constitute a menace to the public health after prolonged use or under conditions not now foreseen. The Journal likewise has repeatedly warned physicians[2] of the uncertainty that the situation presents.

Education is the best safeguard when experience does not afford convincing conclusions. The impression most prevalent at present with respect to the development of lead poisoning is that the toxic agent finds access to the organism primarily through inhalation of dust and fumes. Interest has thus been centered in the respiratory and alimentary tracts, and prophylactic measures have been directed to these possible channels of entry of the poisonous element. The study of the behavior of "tetra-ethyl lead" and "ethyl" gasoline, such as has recently been reported by Flinn[3] of Columbia University, directs attention to the possibilities of absorption through the sound skin, in addition to the introduction of lead through ingestion and inhalation. So far as application of ethyl gasoline to the skin of animals is concerned, entrance of lead may be secured. The storage of the element may even exceed its elimination for the time being. Flinn insists that this is entirely in agreement with medical experience. Thus far, cases of lead poisoning have not been found at filling stations or garages. Flinn remarks that the time between the man's exposures may be long enough to permit him to remain in apparent good health though he may be storing lead. It may take years before he stores enough or before a sufficient change takes place in his metabolism to cause the symptoms commonly attributed to lead poisoning. The fact to bear in mind, Flinn adds, is that there is no doubt that a storage of lead takes place under exposure.

Lead stored in the body constitutes a potential lead poisoning. These comments are not intended to controvert the conclusions of the committee. They should serve for the present merely to reemphasize an underappreciated avenue for the entrance of lead into the body.

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[1] Committee Report of Ethyl Gasoline, Miscellany, J. A. M. A. 86: 370 (Jan. 30) 1926.

[2] Tetra-Ethyl Lead—Another Industrial Hazard, editorial, J. A. M. A. 83: 1511 (Nov. 8), 1924; The "Ethyl" (Tetra-Ethyl Lead) Gasoline Report, ibid. 86: 353 (Jan. 30) 1926.

[3] Flinn, F. B.: Some of the Potential Public Health Hazards from the Use of Ethyl Gasoline, J. Indust. Hyg. 8: 51 (Feb.) 1926.

THE HOOKWORM CARRIER

Infestation with hookworm is by no means always of equal intensity among the thousands of persons who harbor the parasite. Theoretically, every hookworm in the intestine may be producing a pathologic condition. Those who deal with the persons affected realize, however, that a large number of the persons whose feces contain hookworm ova are apparently well and strong. If the few hookworms harbored are causing harm, it is not apparent. Cogent evidence of this has further been supplied by actual measurements of groups of children from villages and rural districts in areas of hookworm infestation. Smillie and Augustine,[1] who undertook the latest study of the effect of varying intensities of the infection on the physical condition of school children, argue that if any measurable injury is done by the parasites it should definitely affect the physical development of the growing child. If light infestations are found to have little or no effect on the normal growth and development of a child, then it seems fair to assume that they would have no greater deleterious effect on adults.

The records of Smillie and Augustine refer solely to *Necator americanus,* the species that occurs in our Southern states. They indicate, as might have been anticipated, that heavy hookworm infestation (with 500 or more worms) causes marked retardation in the normal growth in height and weight and lowers the hemoglobin of children of school age. An intensity of from 100 to 500 hookworms produces measurable injury. Such intensities of infestation should be regarded as true hookworm disease. Light hookworm infestation (from one to 100) produces no measurable retardation in the normal development of children of school age, nor is the hemoglobin of this group reduced to a measurable degree. An infestation of twenty-five worms may be considered as the economic base line of cure. An infestation of twenty-five worms or less represents a carrier state, and is not true hookworm disease.

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[1] Smillie, W. G., and Augustine, D. L.: *Hookworm Infestation,* Am. J. Dis. Child. 31: 151 (Feb.) 1926.

The prophylaxis of hookworm disease, as well as the cure of those infested, is complicated by the literally enormous numbers of persons concerned. The approach to a problem of such magnitude often calls for compromises that are not necessary under less formidable conditions. The treatment that may advantageously be accorded to a few patients cannot always be extended with equal thoroughness when many thousands are involved. This represents in some measure the situation prevailing with respect to hookworm infestation. Accordingly, if one is justified in regarding the latter from a quantitative or intensity standpoint and considering persons showing the mildest types of involvement and no physical injury as "carriers" rather than "patients," it may be advisable at present to concentrate personal attention on those in greater need of immediate relief. Smillie and Augustine believe that elimination of carriers can be accomplished only by sanitation and education. These procedures, they aver, can be used effectively as the sole weapons of offense, and, in time, will eliminate both the disease and the carrier; but this method is very slow. It is a more economic and humanitarian policy to use treatment to control the disease and sanitation and education to eliminate the carriers.

CREEPING ERUPTION

About the middle of the sixteenth century, botany began to receive attention as a branch of knowledge which, as was then believed, it was important for physicians to study; and from that time forward, for more than two centuries, it formed a regular part of the curriculum in all the leading medical schools. The two chairs of botany and anatomy were not infrequently combined. Fallopius, for example, held the chair of anatomy, surgery and botany in the University of Padua.[1] This association has continued almost to the present generation in recognition of the helpfulness of botany in the search for drug-yielding plants or their cultivation. Zoology, on the other hand, has not been recognized to the same extent by the medical fraternity, except as certain specialized fields of biologic interest have become developed. It should be admitted that a somewhat desultory consideration has long been accorded to certain groups of animal parasites that may infest the human organism. Not until the significant rôle of insects as vectors of disease was clearly recognized did entomology, a branch of zoology, come into world-wide scientific prominence. Presently protozoology began to attract attention, until it has actually become the subject matter of serious consideration in every school of hygiene and public health;[2] and the study of zooparasites of other types is also being vigorously prosecuted.[3]

The helpfulness of highly expert knowledge of the lowlier forms of animal life for medicine has again been illustrated in a recent study[4] of "creeping eruption," a disease that has generally been considered a cutaneous myiasis or invasion of the skin by the larvae of certain flies. The location of such parasites is not confined to wounds or sores, but the larvae are wont to penetrate long distances through more or less superficial tunnels. The identification of the responsible agents as fly larvae has been positively made in a number of well authenticated instances. In rarer cases, nematode invasion of the skin has been reported. In a human disease having a linear skin eruption with an advancing end apparently caused by a migrating parasite, observers[4] in the United States Bureau of Entomology have detected a nematode larva approximately one-fiftieth inch in length and one twelve-hundredth inch in breadth. It was recovered from each of five excisions, representing four patients and as many different localities. The causal nematode is reported here for the first time and described under the name *Agamonematodum migrans* by Kirby-Smith, Dove and White. For the disorder occasioned by it, these investigators propose that the name "creeping eruption" shall for the present be specifically retained.

This cutaneous nematode is apparently not uncommon in at least the southeastern and southern coastal areas of the United States. Kirby-Smith has observed more than 2,500 cases during the fifteen years of his practice at Jacksonville. It has been seen also in the Carolinas, Georgia, Alabama, Texas and Oklahoma. Some persons are more susceptible to infection than others. White persons are more susceptible than negroes. Infection occurs more often in children than in adults, and is most frequent during the summer following rainy weather. The origin of some cases in proximity to sewage disposal suggests a possible relationship with intestinal worms of man, while other cases have originated at points distant from such likely sources of contamination. The evidence at hand tends to indicate that rats might be the normal host of the adult worm. Poultry, cats, dogs and other animals may possibly be concerned. Several promising modes of treatment have been proposed. Successful prevention must await further knowledge of the life history of the adult of the nematode parasite.

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[1] A review of this development is given by Buck, A. H.: The Growth of Medicine from the Earliest Times to About 1800, New Haven, Yale University Press, 1917.

[2] Hegner, R. W., and Taliaferro, W. H.: Human Protozoology, New York, the Macmillan Company, 1924.

[3] Chandler, A. C.: Animal Parasites and Human Disease, New York, John Wiley & Sons, 1922.

[4] Kirby-Smith, J. L.; Dove, W. E., and White, G. F.: Creeping Eruption, Arch. Dermat. & Syph. **13**: 137 (Feb.) 1926.

SALIVARY DIGESTION IN THE STOMACH

When saliva is admixed with hydrochloric acid even under conditions in which the resulting hydrogen ion concentration—the acidity, as it is now usually expressed—is small, the starch-digesting property of the secretion is rapidly destroyed. This is a fact demonstrated in many biochemical laboratories by medical students. A generation or more ago, after the discovery of this phenomenon of amylase destruction by the acid of the gastric juice, it was assumed that salivary digestion must necessarily come to an abrupt end as soon as the bolus of food admixed with salivary enzyme reached the acid-secreting stomach. The pioneers in this study failed to take into account the comparatively slow motility of the latter organ. Yet more than twenty years ago Starling[1] was wont to remind his hearers that the swallowed mass lying in the fundus of the stomach, impregnated with saliva and kept at the body temperature, is penetrated only with difficulty by any juice secreted in the stomach, so that, in those animals whose saliva contains ptyalin, the process of salivary digestion can go on unchecked, at any rate in the center of the mass, for from twenty to forty minutes.

Essentially the same conclusion regarding the persistence of the salivary digestion of starch in the stomach has recently been reached by Bergeim[2] of the University of Illinois College of Medicine. His studies of salivary digestion in the stomachs of normal men showed that, on the average, 76 per cent of the starch of mashed potatoes and 59 per cent of the starch of bread was converted to maltose, an additional percentage being changed to dextrins. This considerable degree of starch conversion was generally brought about within from fifteen to thirty minutes after the meal was finished, active amylase disappearing and free hydrochloric acid appearing simultaneously. Obviously, as Bergeim has pointed out anew, in disease one may expect salivary digestion to be influenced by the quantity and digestive power of saliva secreted and by the motility and secretory power of the stomach. In achylia, salivary digestion in the stomach will be undisturbed and will proceed to practical completion for this type of digestion. If the stomach possesses a bulky and highly acid residuum, such as is sometimes found in ulcer with retention, or if the secretory response of the stomach is rapid, salivary digestion will evidently stop sooner than it otherwise would.

The observations indicate that a rapid development of gastric acidity is not incompatible with a high degree of salivary digestion, because, if food is properly masticated and starch digestion allowed to proceed for fifteen minutes or so in the stomach, almost as much starch is broken down as when digestion can proceed for a longer time. For this the high amylase concentration of saliva is responsible. The use of amylase preparations in medicine has lost its former vogue. From the standpoint of "replacement therapy" there is little, if any, indication of serious need of them. With starch presented in readily digestible form, the salivary enzymes have great opportunity to promote its conversion to the desired alimentary products to be augmented by supplementary digestion in the long reaches of the intestine. Responsibility for proper digestion of starch is thus being transferred more largely to the technic of the food factory and the kitchen instead of the purveyor of digestive ferments.

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[1] Starling, E. H.: Recent Advances in the Physiology of Digestion, Chicago, W. T. Keener & Co., 1906.

[2] Bergeim, Olaf: Intestinal Chemistry, III, Salivary Digestion in the Human Stomach and Intestines, Arch. Int. Med. **37**: 110 (Jan.) 1926.

Current Comment

THE OMENTUM

One will seek in vain in textbooks of physiology for any reference to the omentum; yet the pathologist is intimately concerned with its function. During health the omentum is a comparatively passive structure which, like many other parts of the body, would not even betray its own existence if no effort were made to discover it by anatomic search. A surgeon[1] has termed the omentum "the abdominal policeman," intimating that "it travels around the abdomen with considerable activity, and is attracted by some sort of information to neighborhoods in which mischief is brewing." Thus it happens that when inflamed or septic areas develop or foreign bodies are introduced into the abdomen, a reaction occurs which consists essentially in the walling off and isolation of the inflamed or injured area from the remainder of the abdominal cavity. The omentum becomes adherent to the offending zone and, when this is sufficiently small, encapsulates it. In explanation of these remarkable performances, the occurrence of active omental movement has sometimes been assumed. Although it is not easy, in view of the known structure of the tissue, to conjecture how intrinsic excursions of the omentum in the abdominal cavity can be brought about, the possibility has been taken into account by investigators, notably Florey and Carleton[2] of Cambridge and Oxford, respectively. Their experiments clearly establish that the omentum is totally incapable of any intrinsic activity of the organ itself; but it is moved passively by postural changes of the body, by the peristalsis of the alimentary tract, and occasionally also by movements of the diaphragm. Through such displacements of the abdominal structures, the omentum comes into contact with injured areas or foreign bodies. The mode of attachment consists in the long known production of a layer of fibrin at the point of contact. The power of fibrin production by the omentum is said to be far greater than is that of the peritoneum. According to the English students of the subject, leukocytic emigration also is prompt, so that in the course of a few days, organization of the fibrin layer by new blood vessels and fibroblasts results in the encapsulation of the offending zone by connective tissue fibers. In other words, the powers of adhesion and encapsulation are intrinsic, whereas the movements of the omentum are passive and extrinsic.

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[1] Morison, R.: Introduction to Surgery, 1910.

[2] Florey, H., and Carleton, H. M.: The Nature of the Movements of the Omentum, J. Path. & Bacteriol. **29**: 97 (Jan.) 1926.

THE HEART IN MERCURIC CHLORIDE POISONING

The familiar picture of the consequences of ingestion of lethal doses of mercuric chloride includes a succession of symptoms that may develop with varying rapidity and often only slowly reach their terminal stages. Cramps, bloody vomitus and diarrhea often occur; anuria frequently follows an acute tubular nephritis; and death in uremia is a delayed feature. Acute collapse may occur, but it rarely terminates in an immediately fatal outcome. Thus, among more than half a hundred fatalities recorded within a few years by a single German observer,[1] only one occurred early. The cause of such occasional early deaths after acute mercurial poisoning, undeniable, though they are rare, remains to be accurately ascertained. Nephritis will not always explain them, for there may be circulatory collapse with little evidence of renal damage and without uremia. Kohn[2] has made electrocardiographic studies in experimental animals which suggest that direct myocardial injury may account in part, at least, for this early toxic death. The quantities of mercuric chloride per kilogram that showed this action were of the same order as might be assumed for absorbed mercuric chloride from the average amount ingested by human beings. The heart therefore deserves early attention in cases of such intoxication.

THE INTESTINAL PHASE OF GASTRIC SECRETION

The question of the mechanism of the secretion of gastric juice is a physiologic theme that deeply interests the clinician. The regulation of gastric digestion becomes a task for him not only in connection with alimentary disorders but sometimes also for the accomplishment of adequate nutrition, on which a patient's ultimate recovery or well being may largely depend. Not long ago, reference was made in THE JOURNAL[3] to the evidence for the existence of various "phases" of secretion into the stomach, notably the cephalic, gastric and intestinal. The gastric aspects have naturally excited discussion from the outset, notably since the pioneer and lately verified observations of William Beaumont on the effects of local stimuli to the gastric mucosa. The psychic factors have become recognized through the widely reported studies of Pawlow and emphasized by the work of subsequent investigators. There is a peculiar interest attached even in lay circles to the idea of a psychic influence on the work of the digestive organs; possibly it is thought to illustrate the much vaunted "power of mind over matter." The intestinal phase of gastric secretion, however, has for the most part been overlooked or neglected; yet it has no small importance from a clinical standpoint. The beautiful experiments of Ivy, Lim and McCarthy[4] at the University of Chicago show that the pouch of the entire stomach secretes gastric juice after a latent period of one or more hours, when a mixed meal is ingested and enters the intestine directly without contact with the stomach wall. The delay in the gastric response is presumptive evidence that the effective agent is to be found in products of digestion as they arise in the intestine; at any rate, meat, starch and fat as such do not act. Alcohol, a stimulant of gastric secretion, has long been known to act when introduced directly into the lower bowel; and water also stimulates, though not invariably. Perhaps the response in this case is due to the resulting increase in circulating blood, which in turn promotes secretion. From a practical standpoint it needs to be borne in mind that the intestine affords a pathway for stimulation of the gastric glands. In attempts to "spare" the latter, such "long distance influences" need to be taken into account.

THE SEARCH FOR ACUTE FEBRILE ANEMIA IS BEGUN

In a recent issue of THE JOURNAL,[5] reference was made to Moschcowitz's novel description of an "acute febrile pleiochromic anemia with hyaline thrombosis of the terminal arteries and capillaries." At the time, it was intimated that such precise formulation of nosologic data was likely to bring to light further instances of the same condition; for the history of medicine furnished many illustrations of how careful description of supposed rarities has made physicians more alert in discovering duplicates. A companion case to Moschowitz's[6] clinical entity has been reported by Brill[7] from Portland, Ore.; and he has in turn called attention to a comparable observation by Macintosh and Cleland[8] in Sydney, Australia. Three cases of an apparently identical morbid condition have thus afforded a fairly complete description of the clinical manifestations and pathologic anatomy of a disease unknown heretofore. Moschowitz has detailed some of the principal pathologic manifestations; Brill has succeeded in effecting a cure in one case through blood transfusions given in small amounts at frequent intervals; and the Australian clinicians, through isolation of bacteria from the tissues at necropsy, have raised the questions of a microbic etiology. Thus the problem of the newly identified acute febrile anemia is before the medical profession.

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1. Franz, F.: Die im Deutschen Reich während der Jahre 1897-1905 amtlich gemeldeten Vergiftungen mit Sublimat, Arb. a. d. k. Gsndhsamte **34**: 1 (March) 1910.
2. Kohn, L. A.: Acute Mercuric Chloride Poisoning, Arch. Int. Med. **37**: 225 (Feb.) 1926.
3. The Newer Gastric Physiology, editorial, J. A. M. A. **85**: 1401 (Oct. 31) 1925.
4. Ivy, A. C.; Lim, R. K. S., and McCarthy, J. E.: Contributions to the Physiology of Gastric Secretion, II, The Intestinal Phase of Gastric Secretion, Quart. J. Physiol. **15**: 55, 1925.
5. Febrile Pleiochromic Anemia, Current Comment, J. A. M. A. **85**: 1308 (Oct. 24) 1925.
6. Moschcowitz, Eli: An Acute Febrile Pleiochromic Anemia with Hyaline Thrombosis of the Terminal Arterioles and Capillaries, Arch. Int. Med. **36**: 89 (July) 1925.
7. Brill, I. C.: Acute Febrile Anemia, Arch. Int. Med. **37**: 244 (Feb.) 1926.
8. Macintosh, A. H., and Cleland, J. B.: A Case of Rapidly Increasing Anemia with Irregular Pyrexia and Death, Australasian M. Gaz. **21**: 462 (Sept. 20) 1902.

PROCEEDINGS OF THE DALLAS SESSION

MINUTES OF THE SEVENTY-SEVENTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT DALLAS, TEXAS, APRIL 19-23, 1926

HOUSE OF DELEGATES

First Meeting—Monday Morning, April 19

The House of Delegates convened in the Baker Hotel, and was called to order at 10 a. m. by the Speaker, Dr. Fred C. Warnshuis, Michigan.

Preliminary Report of the Committee on Credentials

A preliminary report of the Committee on Credentials was submitted by the Chairman, Dr. J. D. Brook, Michigan, who reported that there had been filed with the committee registrations totaling 114 members with proper credentials.

The report of the committee was accepted.

There being no objections, the report of the Committee on Credentials was considered the roll call of the House. A quorum being present, the Speaker declared the House duly constituted and ready for the regular order of business.

The next order of business was the presentation, correction and adoption of the minutes of the Seventy-Sixth Annual Session. The Secretary announced that the minutes had been printed and sent to each member of the House of Delegates registered at Atlantic City, with a request for corrections, but that none had been offered.

On motion of Dr. A. T. McCormack, Kentucky, seconded and carried, the minutes of the last session were approved as printed.

Radiogram from Dr. Simmons

The Secretary read the following radiogram from Seapoint Cape, South Africa:

"Congratulations to delegates on Twenty-Fifth Anniversary. Creation of House made possible accomplishments of the quarter century. May Dallas session be glorious success. Regret absence. "GEORGE SIMMONS."

ADDRESSES OF EXECUTIVE OFFICERS

Address of the Speaker, Dr. F. C. Warnshuis

The Vice Speaker, Dr. Rock Sleyster, Wisconsin, took the chair, after which the Speaker delivered his address:

Members of the House of Delegates:

For the fifth time, by reason of your tolerance and kind consideration, I am privileged to preside during your annual deliberations and to address you at the opening session of this meeting. I would be unappreciative indeed did I fail to convey to you my hearty thanks for the trust you repose in me. It will be my purpose to acquit myself in a manner that justifies the confidence expressed. In doing so I bespeak your assistance.

DELEGATES' RESPONSIBILITY

As delegates, representing constituent units of our Association, a responsibility that extends beyond and supersedes personal opinions or quests is reposed in you. On various occasions the House of Delegates has been approached by individuals not included in its membership, requesting the passage of resolutions for personal and selfish interests, and not planned for the good of all. Each Delegate may well consider before introducing a resolution the reason for its introduction, and whether or not a personal consideration is involved.

By your action at our last session it was made possible that proposed resolutions could be sent to the Secretary one month prior to the convening of this House. There has been a negligible response. This procedure was advanced in order that your work might be expedited rather than to limit enactments. Your speaker will rule that, during this session, resolutions may be introduced during the first two sessions and that those subsequently presented will require unanimous consent or else conform to the provisions set forth in our By-Laws.

ASSOCIATION'S ACTIVITIES

By virtue of my office it has been my privilege to attend the meetings of the Board of Trustees. I would that it were possible for every Delegate to be present at the Board's sessions. I have been impressed by the earnest sincerity with which our Trustees assume the responsibility that we place on them. In considering the business matters that come before them, whether it be the purchase of a $65,000 press, the problems of a constituent county unit, legislative activities, public education, scientific work or what not, I have yet to see the faintest inkling of selfish quest or individual prejudice. Each transaction is considered from one fundamental basis, and that is the interest of the physician as an individual and the Association as a whole. I want to voice again the belief of this House that our confidence is well placed in our Trustees, and that they merit our heartiest thanks for their contribution of personal time and thought for the advancement of the profession's interests.

We are extremely fortunate in having executives who are intensely eager, forgetting self, in conducting our business and organizational affairs. The contributions they are subscribing, that which they are achieving, the example they reflect cannot but command respect and commendation. That same spirit and service characterize and permeate the entire personnel at Headquarters. A splendid loyalty to the profession predominates. I feel that we, as Delegates, representing our entire fellowship and membership, owe much of our present organizational stability to the work that is being accomplished by our officers and executives.

What the past year has wrought is clearly set forth in the report of the Board of Trustees. A delegate fails in his duty if he has not read this report. He doubly fails if he neglects to acquaint his state society with these reports of their parent national organization and neglects thereby to obtain whole-hearted interest and support in his state for the work that is being accomplished. Your Speaker is deeply impressed by the possibilities that can be made to result from the activities we are engaged in if our entire profession will but become actively concerned with them.

May I not urge on you that as you return to your state society you will avail yourself of the opportunity and devote time and effort in securing an increasing degree of interest and extended sustained support to these activities. Surely we can no longer stand by in placid attitude when the opportunity is ours to a greater extent than ever before, to set forth these ideals and aims of the medical profession.

As an Association, as units forming our federacy and as individuals, our professional and personal responsibility is divided into two general divisions: the pursuit of scientific study and research and the enhancing of our personal capabilities as physicians to apply these proved principles in the prevention and treatment of disease and, second, the education of the public as to the truths of scientific medicine.

Our professional standing, our scientific advancement, the sifting of the real from the unproved rests with those who are associated with our universities, laboratories and hospitals. In those environments they are able to pursue research and study of the problems partly or still remaining unsolved and establish on a sound basis that which scientific research has uncovered. These workers command our respect for unfolding the erstwhile mysteries of physiologic and biologic functions and the pathobacteriologic changes resulting in disease conditions. As they unfold and establish principles and tenets, he who is engaged in general or special practice must exhibit their application. He cannot remain five or ten years in the rear of the march of scientific progress. He will, if he fails to devote sufficient time each month to acquiring this knowledge. In failing in this, he lowers the profession's standing, for we are appraised not always as a group but as individuals. It therefore devolves on state and county units to pursue vigilantly a program of scientific activity that will enable its members to remain abreast of scientific progress and reflect that progress in their daily contact with their patients. They must guard against the mediocre, the obsolete, and bring up to standard the professional knowledge and work of their members. We lay ourselves open to justified criticism if organized medicine condones, by inactivity, the deficiencies and vagaries of its members. My earnest desire in this is for greater, well planned and concentrated instruction of members in order that they may receive sustained education abreast of the progress of our science. A higher, much to be desired standard and type of practice will then be evolved. This I hold to be an outstanding obligation of our county units—an obligation that is apparently neglected and to which state societies should devote thought and action. Your Speaker recommends that this House direct the Secretary to refer to our state societies this problem.

The second general division of associational responsibility is that of the educational enlightenment of the public as to what the science of medicine may and can achieve for man's individual and collective welfare. This is the greatest public contribution that we can make to all peoples. Our science has made wonderful strides. We are able not only to prevent but also to cure many of the physical ills that beset mankind. We can extend the span of life and enhance it. But of what avail is this ability if we fail to disseminate this knowledge to the public? The public has evidenced an increasing eagerness to receive facts regarding scientific medicine from sources that are authoritative. Our federacy is that source and agency. Our responsibility is an outstanding one. The duty is ours to expend greater time and effort in imparting this knowledge. To do so, we must with concerted, well thought action disseminate these scientific facts and refute the vagaries and fallacies of those who have, and are holding forth as pseudoscientists or as cultists and scientists on theories and principles that rest on a factless premise. By the imparting of the knowledge that we hold, by setting forth that which has been proved, we render a dual service to humankind in conserving physical health, and relieving them of human ills and in exposing those who are posing as possessed of ability to treat disease by means and vagaries that are scientifically valueless. The purpose of your Speaker in so expressing himself is to add emphasis anew to the importance of public education in scientific medicine, and to urge that this House take added action that will promote increased activity to that end.

STATE MEDICINE AND CONTRACT PRACTICE

This House of Delegates and the Judicial Council have defined and voiced opinions as to the Association's attitude toward so-called state medicine, contract practice and group practice. There can be no confusion, doubt or questioning as to definition, inclusiveness or policies, for our Association has very clearly set forth its position. In like manner, expression has been voiced in regard to clinics of the free, charity and "pay" classification. Notwithstanding this action, the resolutions adopted and the Judicial Council's activities, there are evidenced in many communities tendencies toward rapidly growing development of this type of medical practice. They are being aided, abetted and sponsored in many instances by medical men, members of constituent units and of our Association, who, hiding under the guise of public health education, seek to justify their actions and ignore in doing so the Association's enunciated policies. They defeat county and state societies' efforts toward regulation and direction of these forms of medical practice. Your Speaker does not purpose entering on a detailed discussion of the problems at this time, but he does desire to recommend that the House give consideration toward formulating some type of action that will consist of disciplinary measures whereby your former enactments will be observed and complied with by Fellows of the Association, who evidently consider themselves immune from your regulatory enactments. The query, hence, is propounded: Shall we not consider the recommendation and institution of procedure that will command compliance with the enactments of this Association?

PLACE OF ANNUAL MEETINGS

Our Association's annual meeting entails a tremendous amount of work to provide satisfactory arrangements for meeting places for the scientific sections, general meetings, commercial and scientific exhibits, in addition to hotel accommodations for those in attendance. From contact with our officers who are concerned with these details I am impressed with the labor and expense involved and the hundred matters that require adjustment as well as difficult local problems that call for finesse and judgment to overcome. There are but relatively few cities that afford satisfactory accommodations for the holding of our annual meeting. At times we condone unsatisfactory conditions and expend unnecessarily large amounts of money for alterations and building changes. It would therefore seem wise that we change our By-Laws, empowering the Board of Trustees to designate, after careful study and investigation as it only can through proper officers, the place for the holding of our annual meetings. Your Speaker therefore recommends that this comment be accepted as a notice of change in our By-Laws and that the Reference Committee on Constitution and By-Laws bring in the wording of such amendment for your further action at this session.

DEATHS

During the year there have passed on to eternal rest, Thomas McDavitt, Grover Wende, F. A. Stine and G. F. Keiper. Their demise is recorded in deep sorrow and with our sincere sympathy to their immediate relatives. Recognition is accorded to the time and labor they have contributed for the advancement of the interests of scientific medicine and our organization. We who are still privileged to serve must assume their tasks and carry on.

CONCLUSION

Your Speaker feels that, since each Delegate is actively alert to the purposes, activities and needs of our Association in its several professional and public contacts, further comment or discussion of our problems would at this time be superfluous. Your program of work, for this session, is well set forth in the reports of trustees, councils and committees. I am confident that your combined wisdom and their consideration will result in recording indicated action in a manner that will redound to your credit and inspire increasing confidence in your legislative acumen.

The address of the Speaker was referred to the Reference Committee on Reports of Officers.

Reference Committees

The Speaker resumed the Chair and announced appointments to reference committees:

SECTIONS AND SECTION WORK

T. B. Throckmorton, Chairman	Section on Nervous and Mental Diseases
B. R. Shurly	Section on Laryngology, Otology and Rhinology
J. L. Rothrock	Minnesota
W. P. Eagleton	New Jersey
W. G. Ricker	Vermont

RULES AND ORDER OF BUSINESS

H. P. Linsz, Chairman	West Virginia
E. M. Neher	Utah
W. R. Bathurst	Arkansas
W. H. Seeman	Louisiana
William Kuykendall	Oregon

MEDICAL EDUCATION

F. B. Lund, Chairman	Massachusetts
J. N. Hunsberger	Pennsylvania
J. A. Witherspoon	Tennessee
William Allen Pusey	Illinois
B. R. McClellan	Ohio

LEGISLATION AND PUBLIC RELATIONS

H. M. Brown, Chairman	Wisconsin
Donald Macrae, Jr.	Iowa
A. D. Dunn	Nebraska
W. A. Cook	Oklahoma
A. J. Bedell	New York

HYGIENE AND PUBLIC HEALTH

A. T. McCormack, Chairman	Kentucky
S. W. Welch	Alabama
C. E. Mongan	Massachusetts
C. E. Humiston	Illinois
L. H. McKinnie	Colorado

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

J. W. Van Derslice, Chairman	Illinois
C. T. Pigot	Montana
D. E. Sullivan	New Hampshire
E. A. Hines	South Carolina
D. E. McGillivray	Washington

REPORTS OF BOARD OF TRUSTEES AND SECRETARY

E. Eliot Harris, Chairman	New York
C. J. Whalen	Illinois
Holman Taylor	Texas
E. J. Goodwin	Missouri
A. H. Bunce	Georgia

REPORTS OF OFFICERS

A. W. Booth, Chairman	New York
V. G. Vecki	California
W. Gerry Morgan	District of Columbia
A. E. Bulson, Jr.	Indiana
J. N. Henry	Pennsylvania

CREDENTIALS

J. D. Brook, Chairman	Michigan
G. C. Madill	New York
C. E. Piersall	Nevada
G. C. Cottam	South Dakota
Henry Boswell	Mississippi

MISCELLANEOUS BUSINESS

B. L. Bryant, Chairman	Maine
Charles O'Donovan	Maryland
E. E. North	Missouri
M. L. Stevens	North Carolina
E. D. Ebright	Kansas

Address of President William D. Haggard

The Speaker introduced the President, Dr. W. D. Haggard, Nashville, Tenn., who delivered the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker, Members of the House of Delegates, and Ladies and Gentlemen:

Among the many activities of the Association during the last year, a persistent effort has been made to popularize the periodic health examination of the apparently healthy. This has been done by editorials, special articles, addresses by the officers of the Association, and especially by a meeting of the secretaries of the component state medical societies, for which a special two days' program was arranged to consider the question.

As an officer, I have labored in season and out of season to bring this matter before the attention of every state, county and local medical society that I have had the honor of addressing, together with many educational and other lay organizations.

Every other profession and utility is striving for service to its patrons. The annual health examination is a new type of service that the profession has never yet employed as a whole for the benefit of its clientele. There is no gainsaying the great importance and wonderful opportunity for the betterment of mankind, and especially in preventing future disability, than the universal health examination. It would add not only years to life, but life to years. It would in all reality increase the scope of each individual's life by detecting the insidious maladies of all types in their incipience. The skill of the physician could be utilized in the anticipatory prevention of the many maladies whose early recognition makes for cure. It would mitigate the age long wail of the medical profession that patients present themselves too late. This is particularly true of cancer and the precancerous lesion. The oftener the examination from head to toe, the surer the beginnings of new growths can be determined. If cancer alone were the only disease that could be detected by these examinations, it would be of incalculable benefit.

It is the insidious diseases of the great organs, the degenerative diseases, that especially go undetected unless an examination, even in apparent health, discloses their first evidences.

The greatest field of the physician, which has been so long neglected, is the health guidance of his clientele. His judgment, wisdom, experience and knowledge can be massed in an attack against all forms of abnormal and unhealthful living, bad eating, and environmental and occupational disorders.

Social hygiene, in its best sense and in its own most rightful application by a man of sane and practical experience, could be employed to throttle abnormal behavior tendencies and bad habit formations and in the training of character.

It is not only the physical handicap but also the mental and environmental that so often needs surveillance. Thus will the true physician come into his very own in the close and intimate management of the health and happiness of his patients and render a vital service for which no one else is so transcendentally fitted.

Blanks of the physical examination, including the history of the patient, which he himself can fill out, should be in the waiting room of every physician for the use of his office patients, with a little placard over it, as employed by the Pennsylvania Medical Society, inviting the patient to take a health examination blank, fill it out, and be examined that he may have better health and longer life.

When once inaugurated, there could be no objection to the physician notifying his clientele by mail that the yearly examination would be due on a certain date, just as dentists do about their prophylactic treatments. It is not only a courtesy but a valuable thing to the patient and would embolden a large percentage to apply for examination who would neglect it if not reminded of it.

Each medical society should determine its own charge, both minimum and maximum, which it thinks would be wise and reasonable for the annual health examination.

The publication of the "Manual for the Conduct of Periodic Examinations," which has been issued by the Association under the direction of the Bureau of Health and Public Instruction, is very complete and helpful and has been very well received by the profession. It should be in the hands of every physician in the United States.

It is obvious that mere propaganda, while all important in the beginning of a great movement of this sort, cannot realize its object unless it has as a basis a plan whereby every one in the profession can be brought to the acceptance and employment of the plan. It is clear that such a far reaching effort cannot rest on a few men or on the officers alone of the various societies, but it must be put in the hands of the individual members.

It would seem, therefore, that on the county society as a unit should be devolved the responsibility of giving every one of its members the information and the facilities, and further, through its cooperation, to bring the matter to the attention of every individual in the community.

To that end and to the practical utilization of the idea of periodic health examinations, the following plan has been elaborated by the retiring president as a suggestion in order to get the maximum number of patients examined by a maximum number of family physicians:

PLAN FOR PROMOTION OF PERIODIC HEALTH EXAMINATIONS

1. The House of Delegates should recommend to the thirty-four states that have not yet acted, that the manual be obtained from headquarters at cost price, together with a suitable number of examination blanks, and supplied to each individual member.

2. The House of Delegates should recommend to the county societies that a special meeting on this subject be held at least once a year in order to popularize the plan and bring it into being.

3. A medical society clinic emphasizing the need, value, method and technic in the conduct of health examinations, and their bearing on preclinical medicine, should be arranged by local or neighboring clinicians.

4. A strong, active committee in each county society on periodic health examinations should supervise the inauguration and perpetuation of the health examination.

5. A nation-wide educational campaign should be inaugurated during "Health Week," or some designated period in cooperation with the existing board of health or with some local activity, such as the Anti-Tuberculosis Association, or other lay organization, to interest the civic clubs and other organizations in the great importance and benefit to be derived from this plan. Health parades with banners carried by Boy Scouts, films, large posters, and folders could be utilized, as was so successfully done by the Illinois Medical Society.

6. A statement in the nature of a circular letter should be prepared by the county society and sent impersonally as a statement from the county society to the clientele of the various members, calling their attention to the importance of the annual health examination and urging their acceptance of it at the hands of their physicians.

7. Many organizations, lodges, clubs, large industrial corporations, etc., could greatly facilitate the idea by having cards mailed to their various members on their birthdays, urging the importance of the acceptance of the birthday physical examination.

8. The medical society as such should start the campaign by having as many of the individual members as possible to undergo the examination, first, as an educational measure and, secondly, to imbue the individual members themselves with the importance and far reaching value of the plan. This method was employed by the King's County Medical Society. Nothing will stimulate the universal application as much as the profession themselves who so sorely need it, utilizing the idea for their own benefit as well as for the advancement of the general scheme.

9. The press should be requested to carry articles prepared and issued by the county society, preferably unsigned, as a news article or under the signature, if desirable, of the officers of the society, explaining the importance of periodic physical examinations and the benefit to be derived by the health client.

These recommendations are to strengthen the work already done, crystallize it and have it activated by the House of Delegates.

No more humane, scientific and socially and economically beneficient movement for the well being of the American people could be fostered and put into nation-wide practice than the universal periodic health examination by the American Medical Association.

Address of President-Elect Wendell C. Phillips

The Speaker introduced the President-Elect, Dr. Wendell C. Phillips, New York, who delivered the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

Since the World War, the histories of foreign nations have been marked by intense nationalism. This nationalistic trend has led them to take advantage of every possible opportunity to exploit their merits, and medical science has been no exception. Unfortunately, many of the medical discoveries thus far proclaimed and promoted as national interests have not fully proved their worthiness. In other words, the rush for publicity has led the promoter far afield from the pathway of proved science.

From Switzerland has come the Spahlinger treatment of tuberculosis; from England, the Gye-Barnard work on cancer, also the Dreyer vaccine for tuberculosis; from France, the Calmette work on vaccination against tuberculosis with living organisms; from Germany, Blumenthal's investigations on cancer, and from Denmark, Sanocrysin.

Not one of these discoveries has thus far been established as of great value, although, according to Park, the Calmette work on vaccination seems to possess possibilities of virtue.

The United States, on the contrary, without having made any great pretense to the forcing of its scientific discoveries into the nationalistic program, has given to the world remarkable discoveries and scientific advances in medicine.

The work of the Dicks and of Dochez and Blake on scarlet fever seems to be established on a definite scientific basis. The discoveries made on the virtues and the relation of light to rickets represent another real achievement in the advance of science.

The toxin-antitoxin prevention of diphtheria has been definitely and positively proved. An intensive antidiphtheria campaign carried on in the city of Auburn, N. Y., has been so successful that no deaths from diphtheria have occurred in that city for the last two years. An antidiphtheria campaign now going on in New York State carries the slogan "No diphtheria in New York State in 1930," and the state commissioner of health believes that this is possible. It would seem that the future holds out hope that diphtheria—the dread destroyer of child life—may ultimately disappear, at least as an epidemic disease.

We may also claim a distinct advance in studies related particularly to the elimination of scarlet fever, measles, and possibly whooping cough. Moreover, the United States may truly be called "teacher to the world" in organization and methods of preventive medicine.

All these are distinct achievements in the advance of medical science, but in this country they have not been promoted in a nationalistic spirit. They have been offered freely to the world as our contribution. Let us not hesitate to do all in our power to give our own people the knowledge and the benefit of these discoveries. The public should know that children may be made immune from diphtheria as surely as from smallpox, and every physician should endeavor to persuade all patients to safeguard their children, especially those of preschool age, by the employment of preventive treatment.

During the last few years, many of our leaders of medical thought, and particularly those clothed with the responsibility of outlining medical policies, have given serious consideration to the subject of public health education. There has been a slight awakening of the medical conscience as to the trusteeship of physicians as promoters of individual and community health. These pioneers have become alive to the fact that physicians only are qualified by heritage, by education and by experience to give to the public the basic principles of health preservation, and the protection of life that is afforded by sanitation and the scientific application of all the phases of preventive medicine. Given such responsibility, I ask you in all seriousness whether the medical profession of the country has ever lived up to its great opportunity to teach the people how to keep well. It sounds like a simple thing to do, but the reticence of medical men and the innate fear of publicity, the supposed restriction of ethical limitations, have tended to prevent these great educators from fully covering this proper field for a physician's activity.

Nevertheless, there has gradually developed on the part of the public demands for public health education. Gradually, great newspapers and newspaper syndicates are coming to realize that public health knowledge is a valuable commodity for which the people are willing to pay. This tendency is leading newspapers, magazines and newspaper syndicates to realize that the public must be given the true facts regarding individual and community health. This further knowledge in turn is showing its influence by the gradual elimination from these publications of the publicity which is sought by nostrums, cults, quackery and other menaces to the public health. This naturally engenders a desire to purvey only well founded information regarding health matters.

In the quest for such information on the part of great publications, they have learned that organized medicine is the only possible source from which correct information can be obtained. Our headquarters is well equipped to furnish every form of advice and counsel that any publication may need regarding irregularities and fakes. We are able from headquarters to supply health educational material covering a wide variety of topics, but we must not forget that a hundred and fifteen million people in the United States need information and education both as individuals and as communities. The American Medical Association has positively and definitely entered the field of public health education. We have shown this in various ways, particularly by the publication of *Hygeia,* which is distinctly a public health journal, devoted to individual and community health. I am happy to say that this journal is proving its worth and is rapidly becoming the text for sound public health principles.

We have also endorsed the scheme for periodic health examinations, and we are beginning to promote this wise, humane, healthful program through our county and state societies. We are also entering into cooperative relationship with great newspaper and magazine agencies, through which information from the highest medical sources is furnished to the public over the names of the men who write the articles. These are all steps in the right direction, but as I see it they mark only the entering wedge into what must eventually become universal health education, participated in by every medical practitioner as one of the basic duties of his profession. There should be in the United States a great public health preventive medicine university with a hundred and fifty thousand physicians as teachers. Universal health education of the public received from a properly informed physician will eventually result in a new type of patient and an increased activity for the physician, which will greatly enhance not only his field of service but also his financial status.

I am convinced that modifications in the undergraduate curriculum that will provide for broader education in preventive medicine, public health, psychology and sociology should receive serious consideration on the part of medical educators.

To this end I recommend that the House of Delegates urge every practitioner of medicine to become a public health educator in the broadest sense of that term; that the American Medical Association devote sufficient time to the development of ways and means for properly conveying personal and community health education; and that either by the appointment of a special committee or through one of the bureaus of the Association an intensive survey of the general subject of public health education should be inaugurated and reported on at the 1927 meeting of the House of Delegates.

REPORTS OF OFFICERS

Report of Board of Trustees

Dr. Edward B. Heckel, Pennsylvania, read an abstract of the report of the Board of Trustees. The report was referred to the Special Reference Committee on the Report of Board of Trustees.

Dr. William Allen Pusey, Illinois, said: "The report in connection with the medical relief in times of disaster was taken up in conference with the surgeon generals of the several departments and with the executive officers of the Red Cross, and they gave it their entire approval. Surgeon General Ireland, however, suggested that by a little change in phraseology, we make it plain that we had to do clearly with medical relief. So with permission we would like to change the report from 'Report of the Committee on Disaster Relief' to 'Report of Committee on Medical Relief in Disaster,' and to change the several phrases throughout the report, adding 'medical' before 'disaster' in connection with it to indicate more clearly that this is a matter of medical relief."

Resolution in Memory of Thomas A. McDavitt

On motion of Dr. E. B. Heckel, Pennsylvania, Dr. A. R. Mitchell, Nebraska, read the resolution adopted by the Board of Trustees in memory of Dr. Thomas A. McDavitt, deceased:

> Dr. Thomas McDavitt, for thirteen years a member of the Board of Trustees of the American Medical Association, and for two years its chairman, died at his home in St. Paul, Minn., March 4, 1926.
>
> Dr. McDavitt was born in St. Louis, Mo., May 15, 1857, graduated from the Chicago Medical College in 1879, and entered on the practice of medicine at Minneiska, Minn., immediately thereafter. In 1891 he located in St. Paul and was engaged in practice in that city, specializing in ophthalmology and otolaryngology, until the time of his death.
>
> The son and the grandson of physicians, Dr. McDavitt had instilled in him from his childhood the high principles and honorable traditions of the profession in which he served for nearly forty years. He was thoroughly loyal to the ideals of the true physician, and stood with all his strength against any effort to drag them down.
>
> Early in his professional career Dr. McDavitt identified himself with medical organization and gave himself freely to its advancement. For nearly twenty years he was secretary of the Minnesota State Medical Association. At four annual sessions of the American Medical Association he served as a member of its House of Delegates, and in 1913 was elected as one of its Board of Trustees, in which capacity he served continuously until his death. As chairman of the Finance Committee, as a member of the Executive Committee and of the Committee on Scientific Exhibit, Dr. McDavitt rendered invaluable service to the Board of Trustees and to the Association. He looked on his duties seriously, and his every official act was performed with the most conscientious regard for what he believed to be for the best interest of the medical profession as represented in and by the American Medical Association. Always tolerant and considerate of the views of others, Dr. McDavitt was none the less guided by his own convictions, formed after mature deliberation.
>
> In his official and personal relations with his fellows, his every act was marked by high minded courtesy. Because of his fidelity to his every trust, his unswerving loyalty to his profession, his kindly bearing and his willingness to do his full part in every task, he won and held a high place in the esteem and affections of those who were privileged to serve with him on the Board of Trustees.
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> Dr. McDavitt served his state with the same fidelity that characterized his service as an officer of this Association. For fourteen years he was secretary of the Minnesota State Board of Medical Examiners. In this capacity he stood between the people of his state and unqualified persons who sought license to practice the healing art. He demanded that the terms of the law be complied with, and was uncomprising in his stand against quackery and fraud.
>
> In the affairs of the Federation of State Medical Boards of the United States, Dr. McDavitt took an active part and always supported the efforts of this and other agencies to secure efficient medical service for the public. Be it
>
> *Resolved,* By the House of Delegates of the American Medical Association, that through the death of Dr. Thomas McDavitt this Association has lost a friend and counselor who, through his untiring and devoted service, played an important part in its development and in extending its influence as a scientific society and its benefits as a philanthropic organization. And be it further
>
> *Resolved,* That while we bow in sorrow that our friend and Fellow has passed on and that we are deprived of his companionship and helpful counsel, we are deely grateful for the privilege of our long association with him and revere his memory, because of his work for this Association and because of his devotion to the noblest traditions of our profession.

Report of Secretary

Dr. Olin West presented an abstract of the Report of the Secretary. The report was referred to the Special Reference Committee on the Report of the Board of Trustees, so far as matters that are reported on by the Secretary are related to subjects reported by the Board of Trustees. That part referring to amendments to the Constitution and By-Laws was referred to the Reference Committee on Constitution and By-Laws.

Supplementary Report of Judicial Council

Dr. M. L. Harris, Illinois, Chairman of the Judicial Council, presented a supplementary report as follows, the report of the Judicial Council having been printed in the handbook:

During the past year there have been submitted to the Judicial Council, for decisions, questions that have made it clear to this Council that a few slight changes are desirable in our fundamental law if consistent and effective decisions are to be made possible.

As the matter stands at present, there is a lack of uniformity in the laws of the several county societies and state associations, so that when appeals are taken to the Judicial Council, the Council finds itself unable to render consistent decisions owing to irreconcilable contradictions found in the laws of the societies or associations taking the appeal. The appeals that give rise to the greatest difficulties are those which involve a question of membership. It seems to be quite generally recognized that the county society has the sole right to determine who shall or shall not be admitted to membership. As membership in a state association and in the national association is made dependent on membership in a county society, it is provided in the laws of many state associations that a physician who has been refused admittance to his county society may appeal to the council or board of censors of his state association and in some instances to the House of

Delegates, and the board of censors may overrule the action of the local society and direct that the person be admitted to membership. It is at this point that the difficulties arise. Should the board of censors or the House of Delegates overrule the action of the local society and direct that the rejected person be admitted to membership, there is no way of enforcing the mandate.

Of course, the state association may revoke the charter of a local society, which may be likened to killing the goose to get an egg which, after all, may be bad. Certainly the remedy is too destructive, but without some remedy the situation reaches an impasse which the Judicial Council is unable to bridge over.

Appeals have come to this Council in which diametrically opposite conditions are found to exist. For instance, a local society refused to admit a physician to membership, and an appeal was taken to the state council, which overruled the action of the local society and directed that the physician be admitted to membership. The local society refused to comply with the order of the state council, and the matter was referred to the Judicial Council.

Again, a local society admitted to membership a physician that the state association considered most objectionable and directed that the local society expel him. The local society replies that the physician in question is *persona grata* to its members and refused to comply with the demand of the state association.

The Judicial Council is without power to act in either case. In the one instance, local prejudice or personal animosity prevents a good man from becoming a member of his state and of the national association, and in the other instance, local indifference forces a most undesirable man into the state and national associations.

At present there is no adequate remedy in such cases. We believe that the difficulty may be overcome in one of two ways:

The local society may not be the sole or final judge of who shall be admitted to membership, or some provision may be made by which the state and (or) national associations may, under certain conditions, determine its own membership.

It does not seem feasible or perhaps possible to remove from the local society the right to judge as to who shall be admitted to its membership. The attempt to force a local society to accept as a member one who has been rejected by a fair vote of the society can result only in disaster to the organization. On the other hand, local prejudice or personal animosity or spite may, as has already come to the attention of this Council, by keeping a man out of his local society, unjustly debar him from membership in our organization. This injustice may be remedied by making some provision by which one who has been unjustly kept out of his local society may become a member of his state and thus of the national association.

No one should be permitted to apply directly to the state association for membership unless and until he has been definitely refused admittance to his local society and until he has appealed his case to the board of censors or council of the state association, and only then provided the board of censors or council has given his appeal a fair hearing and is convinced that he has been unjustly kept out of his local society, and that it is impossible to reconcile the local society to admitting him to membership, and provided further that the board of censors or the state council recommends him for membership in the state association. The state House of Delegates may then elect him to membership, in which case he would thereby become a member of the American Medical Association.

The House of Delegates of a state association should also have the power to expel a man from membership, in case the local society refused to do so, on the advice and recommendation of the board of censors or council.

The House of Delegates of the American Medical Association, on the recommendation of the Judicial Council, should have the power to expel a member in case the state association and local society refused so to do.

The Judicial Council suggests that the House of Delegates of the American Medical Association and of the several state associations make such amendments to their By-Laws as will make effective the foregoing recommendations.

The report of the Judicial Council, taking into consideration certain changes in the Constitution and By-Laws, was referred to the Reference Committee on Constitution and By-Laws.

Report of Council on Medical Education and Hospitals

Dr. N. P. Colwell, Illinois, presented an abstract of the report of the Council on Medical Education and Hospitals. The report was referred to the Reference Committee on Medical Education.

The Speaker drew to the attention of the Reference Committee on Medical Education the instruction of the House that was given at the St. Louis session and repeated at the San Francisco session at which this Council was charged with taking up the study of the nursing problem and bringing some definite report to the House.

Report of Council on Scientific Assembly

Dr. J. Shelton Horsley, Chairman of the Council on Scientific Assembly, read the report, with the following interpolation after the section referring to the Section on Stomatology:

Of course, it is highly important that we have some contact with dentists. Only two papers at the last session of the Association could be classed as stomatologic papers. The others could be assigned to other sections. It seemed unnecessary to continue a section with such small attendance on that particular subject, whereas it could be distributed among other standard sections.

The report was referred to the Reference Committee on Sections and Scientific Work.

Report of Committee on Narcotic Drugs

Dr. W. C. Woodward, Chicago, read the report of the Committee on Narcotic Drugs:

The House of Delegates, at its last meeting at Atlantic City, appointed a committee on narcotic drugs. The main committee consisted of: Dr. William C. Woodward, Chairman, Chicago; Dr. S. Dana Hubbard, New York; Dr. C. G. Jennings, Detroit; Dr. Alexander Lambert, New York; Dr. Dean Lewis, Baltimore; Dr. George McCoy, Washington, D. C.; Dr. Olin West, Chicago, and Dr. Orrin S. Wightman, New York. The Advisory Committee consisted of: Dr. Ray Lyman Wilbur, Stanford University, Calif.; Dr. Frank Billings, Chicago; Dr. Hugh Cabot, Ann Arbor, Mich.; Dr. James F. Coupal, Washington, D. C.; Dr. Hugh S. Cumming, Washington, D. C.; Dr. George E. de Schweinitz, Philadelphia; Dr. William D. Haggard, Nashville, Tenn.; Dr. Merritte W. Ireland, Washington, D. C.; Dr. Franklin H. Martin, Chicago; Dr. William E. Musgrave, San Francisco; Dr. Wendell C. Phillips, New York; Dr. William A. Pusey, Chicago; Dr. George H. Simmons, Bromsgrove, England; Dr. Charles T. Sturgeon, Los Angeles, and Dr. Hubert Work, Washington, D. C.

The committee has held one meeting during the year. As the result of that meeting, the attention of the committee was called to the apparent inadequacy of instruction in medical schools with respect to narcotic addiction. It was voted to bring this matter to the attention of the Council on Medical Education and Hospitals and to the attention of the House of Delegates.

On the basis of a letter received from the Surgeon General of the Army, Dr. Merritte W. Ireland, a resolution was adopted recommending that the Board of Trustees approve a policy of turning over narcotic drugs confiscated by the customs service and Bureau of Internal Revenue, not necessary for the current uses of the government, to the war and navy departments in sufficient quantities to build up a reserve of these drugs for use by the army and navy in case of war.

The report was referred to the Committee on Hygiene and Public Health.

Report of Committee on Accidents from Zinc Stearate

Dr. Isaac Abt, Illinois, read the report of the Committee on Accidents from Zinc Stearate Dusting Powders:

The committee has held one meeting during the year, and Dr. Woodward has been in conference with the manufacturers. Progress has been slow. We have insisted that the package be of metal or that the zinc stearate be contained in a metal box and that it have a self-closing device. The Illinois State Board of Health, through its secretary, has passed regulations insisting that these recommendations made by this committee be complied with. I ask that the committee be continued in some way or other so that something may finally be accomplished.

The report was referred to the Reference Committee on Hygiene and Public Health.

Report of Committee on Trachoma Among Indians

Dr. Wilder, Section on Ophthalmology, read the report of the Advisory Committee to Commissioner of Indian Affairs on Trachoma Among American Indians:

In suggestions offered to the Commissioner of Indian Affairs in regard to the problem of the control of trachoma among the Indians, the committee urged the importance of a careful survey with complete records to determine the prevalence of the disease among the members of the various tribes and nations of Indians.

The committee also urged the importance of prevention of the spread of the disease among Indians not already affected, by proper segregation of active cases in schools and villages so far as feasible, and also by a campaign of education as to the manner in which the disease is conveyed from one to another and the simple measures of cleanliness that will prevent such spread of the trouble.

The committee was gratified to hear from the commissioner that its suggestions were accepted and are being acted on. In a communication of Feb. 16, 1926, he says:

> The work of reducing the morbidity for trachoma has been aggressively carried on the past year. We are continuing our Southwestern trachoma campaign, with three units working. During the last fiscal year our special physicians examined a total of 68,223 Indians, and operated on 8,455. In addition, they treated 5,581 without surgery. This does not include the patients operated on and treated by the regular physicians. We have established a temporary trachoma hospital at Albuquerque with bed capacity for twenty patients, which has been operating at capacity during the greater part of the time. We have also established a trachoma unit at the Laguna, N. M., Sanatorium, and it is doing excellent work.
>
> In addition to the active measures, we have been stressing the educational and prophylactic phase. We are enclosing a circular that has recently been sent out to the service. In accordance with the suggestions of your committee, we have designated two annual trachoma weeks, during which all workers in the service, including missionaries and ministers, are requested to stress the importance of this problem.
>
> In concluding, the office wishes to express again its appreciation for your helpful suggestions and assistance, and signify its hopefulness that the American Medical Association will continue the services of the committee at its next annual session.

Again in a letter of March 2, 1926, he says:

> Receipt is acknowledged of your letter dated Feb. 27, 1926, concerning the trachoma work in the Indian Service. Concerning the suggestion of your committee that a complete survey is necessary, the office is now making up a permanent record of trachoma at each agency and school, and we hope eventually to get a complete survey. We now keep a monthly record which will show the number examined, the cases found, and the disposition of each case by jurisdictions.

The circular referred to is directed to superintendents of Indian schools and physicians in the service, and insists on certain hygienic details in schools and meeting places looking toward the prevention of the spread of the disease.

The committee recommends to the House of Delegates the appointment of an additional member to the committee, Dr. Francis I. Proctor, formerly a practicing ophthalmologist in Boston, now residing in Camden, S. C., who is much interested in the subject, and who has time to devote to it.

The report was referred to the Reference Committee on Hygiene and Public Health.

NEW BUSINESS

Resolution on Changes in Premedical Courses

Dr. Southgate Leigh, Virginia, read the following resolution, which was referred to the Reference Committee on Medical Education:

> WHEREAS, The Council on Medical Education and Hospitals has already made certain investigations looking to changes in premedical courses so as to enable students to graduate in medicine at an earlier age than is now possible, and
>
> WHEREAS, Former President William Allen Pusey, in his address before this body, urged that the medical course itself be shortened by one year, therefore be it
>
> *Resolved*, By the House of Delegates that the Council be requested to consider feasibility of allowing medical students credit for courses taken during the summer months, in a manner similar to the plan followed in the academic departments.
>
> The Council is further requested to confer with the various medical schools, asking their cooperation in this important movement.

Resolution on Official Recognition of Irregular Practitioners

Dr. Southgate Leigh read the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

> WHEREAS, Through the expenditure of large sums of money, and the employment of prominent and influential individuals to represent them, the irregulars are making systematic and strenuous efforts to obtain official recognition in every state in the Union, and,
>
> WHEREAS, Many irregulars are illegally practicing in various states, and, through financial and influential backing, are making successful efforts against prosecution, and
>
> WHEREAS, In both of these matters there has at times been a lack of systematic and determined effort to thwart their aims,
>
> *Resolved*, By the House of Delegates that the Trustees be requested to take the necessary steps to aid and direct the profession in the various states properly to combat these vicious movements.

Resolutions on Trained Nurses

Dr. E. Eliot Harris, New York, read the following resolution, which was referred to the Reference Committee on Medical Education:

> *Resolved*, That there is a great need throughout the country for a basic trained nurse, and that all pupil or student nurses shall receive basic training in training schools connected with hospitals giving courses of two years. The curriculum should be thoroughly revised so as to provide bedside instruction, class room lectures and demonstrations and, above all, the teaching of the art of nursing by precept and example so as properly to fit the pupils or students for their work as nurses in the hospitals and in the homes.
>
> Graduates, after passing the state examination, should be registered as trained or, if preferred, registered nurses. Such trained or registered nurses may become public health or other specially designated nurses after being properly admitted to postgraduate schools for nurses and passing the required examination.
>
> *Resolved*, That the Board of Trustees appoint a committee on nurses and nursing education to investigate and report to the next House of Delegates the results of its investigation and constructive thought on the nursing question and especially on the subject of increasing the number of bedside nurses throughout the several states; the Committee on Nurses to be empowered to confer with the National Nurses Association, hospitals and other committees having similar objects.

Resolutions on a Home for Incapacitated Practitioners

Dr. D. E. Sullivan, New Hampshire, read the following resolution, which was referred to the Reference Committee on Miscellaneous Business:

> *Resolved*, That the President be, and hereby is authorized and directed to appoint a committee of five representing the different sections of the country to make a survey of the physical condition and financial status of its members who are incapacitated for earning their support by the practice of their profession with the objective of establishing, managing and sustaining a home or homes for their care and maintenance, and be it further
>
> *Resolved*, That the said committee is directed to make a full and comprehensive report of its findings with recommendations to the annual meeting of the House of Delegates in 1927, and the Board of Trustees is hereby empowered to appropriate such sum of money as may be necessary to carry into effect said survey.

Resolutions on Expert Opinion Evidence

Dr. G. E. Follansbee, Ohio, introduced the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

> WHEREAS, The present court procedure in presenting expert opinion evidence in both civil and criminal cases has in many instances brought public criticism and disgrace on both the legal and the medical professions, and

WHEREAS, The present procedure, in many cases, is believed to defeat the administration of even handed justice, and to operate notoriously in favor of the rich as compared to the poor before a court on similar charges, and

WHEREAS, An effort is being made in many states by the bar associations and medical societies of those states to correct such maladministration of justice, and to relieve the legal and medical professions of the public criticism now received, and

WHEREAS, The American Bar Association is actively pursuing the foregoing laudable effort, therefore be it

Resolved, By the House of Delegates of the American Medical Association, that it recognize the urgent need for such remedial legislation and such change in court procedure as will correct the abuse of expert opinion evidence, that it approve the efforts of the various bar and medical associations, that it strongly favors the use of experts appointed by the courts as a corrective to the present abuse, that it believes the expert opinion witness should be allowed to present and read a written opinion based on examination and not on a hypothetic question, that fees due expert opinion witnesses appointed by the court should be fixed by the court and taxed as a part of the cost in the case, and be it

Resolved, That the American Medical Association offers its cooperation by such means as lies in its power to promote such legislation as will be mutually satisfactory to the legal and medical professions toward the correction of present unsatisfactory procedure of presenting expert opinion evidence, and the Board of Trustees is hereby requested to use the facilities of this organization in such a way as to give effect to the sentiments expressed in this resolution and, be it further

Resolved, That a copy of this resolution be sent to the American Bar Association

Resolution on Ad Interim Meeting

Dr Wells P Eagleton, New Jersey, presented the following resolution, which was referred to the Reference Committee on Constitution and By-Laws.

The delegates from the Medical Society of New Jersey are instructed to use their influence and vote

1 That an ad interim meeting of the House of Delegates of the American Medical Association be held at the headquarters of the Association annually, as in the opinion of New Jersey it is impossible for the House of Delegates to do its full duty by the medical profession by meetings but once a year during the scientific session

2 That the following words be added to Chapter III, Section 1, of the By Laws following the word "Association"

"An ad interim meeting shall be held at the headquarters of the Association annually"

Resolutions on Contract Practice

Dr A D Dunn, Nebraska, read the following resolution, which was referred to the Reference Committee on Legislation and Public Relations.

Inasmuch as contract practice is absorbing an ever increasing portion of general medical practice on account of the rapid development and concentration in business and industry, and inasmuch as brokers under the guise of health, accident and sickness insurance in which they purport as middlemen to sell medical services to the laity or entering the field of medical practice, be it

Resolved, That 1 The whole matter of contract practice be investigated under the direction of the Judicial Council

2 The trend and dangers to patient and profession inherent in this movement be analyzed and clearly set forth

3 Recommendations as to the policy of the American Medical Association toward contract practice, its functions, limitations and control be submitted to the House of Delegates for action at its annual session in 1927

4 Systematic effort be made to get clearly before the constituent societies the results of this investigation and whatever action the House of Delegates may take in the matter

Adjournment in Honor of Deceased Colleagues

Dr A T. McCormack, Kentucky, moved that when the House of Delegates adjourned, it adjourn in honor of the memory of Drs Stine, Keiper and Wende, three of our colleagues who have been lost to us during the year

The motion was seconded

Dr. Emmet Keating, Illinois, suggested as an amendment that Dr McDavitt's name be added to the list

The motion was carried as amended

Communications

The Secretary read messages from Dr. G E de Schweinitz, the Philadelphia County Medical Society, and the American College of Surgeons The communication from Dr Martin, American College of Surgeons, as the Board of Trustees has always determined the advisability or desirability of sending such delegates, was referred to the Board of Trustees

The meeting adjourned at 12 30 p m

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC)

CALIFORNIA

Typhoid Outbreak at Calexico.—An outbreak of typhoid fever, involving sixty-seven cases up to April 15, is reported by the California State Board of Health at Calexico in Imperial County, near the Mexican line All of the cases reported have occurred among consumers of milk from a single dairy As a result of an investigation made by the state epidemiologist, Dr Charles H Halliday, the source of the outbreak was traced to a "missed" case on the dairy Pasteurization of all milk supplies was ordered by the local health officer, Dr Alfred L Heck, immediately on the discovery of the first case The state health department predicts the development of a total of at least 100 cases in the present epidemic A complete investigation has been made and the epidemic is under control

State Medical Meeting—The fifty-fifth annual session of the California Medical Association will be held at Oakland, April 26-May 1, under the presidency of Dr Edward N Ewer of that city The first two days will be given over to preconvention clinics at the Providence, Merritt and Fabiola hospitals, they will be conducted by Dr Gabriel Tucker of the University Hospital, Philadelphia, Dr. Emil G Beck Chicago, and Dr John de J Pemberton, Mayo Clinic, Rochester, Minn, the afternoons of the preconvention days will be given over to golf Headquarters will be at the Hotel Oakland, Thirteenth and Harrison streets, the addresses of the retiring and incoming presidents will be delivered at the first general session at 10 o'clock, April 28 the second general session will be at the same hour, April 29, and will be addressed by the three visiting speakers noted above and by Col Edward L Munson, Medical Corps, U S Army Among others, Dr Ray Lyman Wilbur, president of Stanford University, will address the third general session, April 30, at 10 o'clock, on "The Deficiencies of Modern Medicine" There will be a smoker following the meeting of the house of delegates, Wednesday evening, and at that time, a musicale for the ladies, a dinner dance Thursday evening, and on Friday evening a bridge tournament Other entertainment and luncheons have been arranged for various groups

DISTRICT OF COLUMBIA

Personal—Dr William Calhoun Stirling, Jr, has been appointed associate professor of genito-urinary surgery at Georgetown University Medical School, Washington——Dr Arthur G Coumbe, Washington, has been appointed manager of the U S Veterans' Bureau office in Honolulu, Hawaii——Dr Harvey W Wiley addressed the Philadelphia Forum, April 8, on "Living Longer—How Can it Be Done?", this was the occasion of the observance of health day in Philadelphia, a trophy was presented to the school that won the highest average in health sanitation obtained in competition with twelve junior high schools in the city——According to *Science*, Dr Victor C Vaughan will attend the third Pan-Pacific Science Congress, to be held in Tokyo, October 27-29.——Lieut Col Charles F Craig, Medical Corps, U S Army, has been appointed director of laboratories and of the department of clinical pathology and preventive medicine at the Army Medical School

CHICAGO

Fund for Cancer Research—Mr E F Holmes has bequeathed $100 000 to the University of Chicago to further research on the problem of cancer, Miss Harriet F Holmes, a daughter, has been associated with Maude Slye, Ph D, in cancer research at the university for many years

Tuberculosis Conference—For the first time in years the Mississippi Valley Conference on Tuberculosis will be held in Chicago, June 14-17, at the Edgewater Beach Hotel There will be representatives from the tuberculosis associations of Ohio, Indiana, Illinois, Michigan, Wisconsin Iowa, Missouri, North Dakota, South Dakota Minnesota and Nebraska The purpose of the conference will be to discuss plans for future needs in tuberculosis work

Institute for Juvenile Research.—Founded sixteen years ago as a research organization connected with the juvenile court, the Institute for Juvenile Research now is operated by the state. Friends of the institute are raising $275,000 to finance a five year research program; they recently held a luncheon at the Hotel Sherman, which was attended by more than a thousand persons. Among the speakers were Dr. Adolf Meyer, Henry Phipps professor of psychiatry at Johns Hopkins University School of Medicine; William A. Neilson, president of Smith College; Dr. Ludvig Hektoen, Dr. Isaac A. Abt and Prof. Charles E. Merriam, Ph.D., of Chicago. The secretary of the committee, Joseph H. Schaffner, 36 South Franklin Street, reported that more than $175,000 had been raised toward the research fund.

Society News.—Dr. Harry A. Singer and Bertha Kaplan, among others, addressed the Chicago Pathological Society at the John Crerar Liberty, April 12, at 8, on "Streptococcus Erysipelatus Toxin-Antitoxin."——The April 23 meeting of the Institute of Medicine of Chicago at the City Club was devoted to the presentation of work by Chicago investigators; there were in all nine papers presented. Dr. B. Brouwer, professor of neurology, University of Amsterdam, gave an address, April 22, under the joint auspices of the institute and the University of Chicago at the Harper Memorial Library on "The Projection of the Retina on the Brain"; Sir Arthur Newsholme, London, England, will lecture at the Harper Library, May 10 and May 11, 4:30 p. m., on "The Present Position of the Tuberculosis Problem" and "The Growth of Social Insurance in Britain."

MASSACHUSETTS

Physician Fined.—Dr. Walter C. Harris, Worcester, was recently fined $500, it is reported, under an indictment charging him with issuing false prescriptions for narcotic drugs and selling narcotics illegally. Dr. Harris paid the fine.

University News.—Dr. Knud Faber, professor of internal medicine, University of Copenhagen, gave an address at the Harvard Medical School, Boston, recently, on "The Intestinal Origin of Pernicious Anemia."

Society News.—Dr. Arthur H. Ruggles, lecturer on psychiatry, Yale University School of Medicine, addressed the Massachusetts Psychiatric Society at the Boston Psychopathic Hospital, March 31, on "Mental Hygiene and the College Student."

Licenses Revoked and Suspended.—Information has been received from the Board of Registration and Medicine of Massachusetts that the registration of Dr. Albert Astrin was revoked by the board, February 11, and that the registration of Dr. Walter C. Harris, Worcester, was suspended for three months from February 11.

Personal.—Dr. Amasa Elliot Paine, Brockton, has resigned from the state service as medical examiner for no. 1 Plymouth District on account of ill health, and Dr. Walter W. Fullerton, Brockton, associate examiner, has been appointed to succeed him.——Dr. Hugh Heaton, New York, and formerly of Boston, has been elected superintendent of the Malden Hospital, Malden.

Sir Arthur Newsholme Gives Cutter Lectures.—Sir Arthur Newsholme, recent principal medical officer of the local government board of England and Wales, will deliver the Cutter lectures on preventive medicine at building E, Harvard Medical School, Boston, April 26-27, 5 p. m., on "The Present Position of the Tuberculosis Problem" and "Remaining Problems in Maternity and Child Welfare." Physicians, medical students and others are cordially invited.

MICHIGAN

Camps for Children.—There were thirty-five camps for boys and girls, sponsored by various organizations in Detroit last summer, which, according to the Child Welfare Committee of the Federation of Women's Clubs, provided outings for 13,085 children, at prices ranging from $4.50 to $12 a week among the camps that charged. There were eleven camps that were free. The outings provided were usually of two weeks duration, but, in addition, the Community Union provided one day outings for 38,365 children. The cost of the camps, not including the one day outings, was $18,274 for 12,297 children, or about $14.85 per child.

Society News.—During March the state medical society conducted postgraduate conferences at Adrian and at Kalamazoo.——Dr. Charles A. Elsberg, New York, addressed the Wayne County Medical Society, recently, on "The Diagnosis of Tumors of the Central Nervous System."——Dr. Charles H. Frazier, John Rhea Barton professor of surgery, University of Pennsylvania School of Medicine, will address the Wayne County Medical Society, April 30, on "Surgical Lesions Originating in the Structures of the Pituitary Body."——Drs. Orla H. Gillett and William R. Vis addressed the Kent County Medical Society, Grand Rapids, April 14, on "Three Case Reports of Shoe-Dye Poisoning," and Dr. L. W. Brown, on "Intravenous Sterile Glycerin Drip in Postpartum Infections." The program was given by the staff of St. Mary's Hospital.

MONTANA

First Baby Clinic.—The state board of health announces that it will establish a permanent free baby clinic this summer in Butte. This will be, it is said, the first of its kind in the state. Dr. Hazel D. Bonness is in charge of the child welfare work in the state.

Personal.—Dr. Paul O. Neraal, Cut Bank, has been elected president of the newly formed Northern Montana Medical Association, which embraces the counties of Teton, Pondera, Liberty, Glacier, and Toole; Dr. Miles D. Riddle, Shelby, is the secretary-treasurer.——Dr. Owen C. Evans, Anaconda, has been appointed health officer of Deer Lodge County.

State Board Meeting.—At the recent annual meeting of the Montana State Board of Health, Dr. Louis H. Fligman, Helena, was elected president; Dr. Byron L. Pampel, Livingston, vice president for the next year, and Dr. William F. Cogswell was reelected executive secretary for a term of four years. In view of the prevalence of virulent smallpox in neighboring states, an order was issued requiring all employees of the board to be vaccinated against smallpox unless they had been vaccinated within the last five years.

NEW JERSEY

Child Guidance in Newark Schools.—A department of child guidance is being organized in the public schools of Newark. There will be a child guidance clinic, which, according to the *Mental Hygiene Bulletin*, will devote most of the time to kindergarten children; but there will be a service for older children who are referred to it. Dr. Bruce B. Robinson, since 1925 assistant director of the Cleveland Child Guidance Clinic, has been appointed director by the board of education. There will be also a chief of social service, a chief psychologist, adequate clerical assistance, and, during the rest of this year, an assistant psychologist and two assistant social workers. The state law requires the examination of certain children who are retarded in school as well as those referred to special classes, and those referred to schools as "incorrigibles." The work will probably develop along visiting-teacher lines, and the children studied will be followed up from year to year.

NEW YORK

New Law for Preventing Rabies.—The governor has signed the Lattin bill; now when the state commissioner of health certifies to a local health officer that rabies is present among dogs in his community, it shall be the duty of the health officer to give public notice, whereupon it shall be unlawful for any dog to be at large unless muzzled until the state commissioner certifies that rabies no longer exists; thus it becomes the duty of all law enforcing officers to cause any dog found at large and not muzzled to be confined, or, if that is not practicable, to be killed; any person killing a dog not muzzled which is known to have bitten a person or animal shall not be held liable for damages, but must report the facts to the local health officer.

Hospital News.—The Mary Immaculate Hospital, Jamaica, L. I., has let contracts amounting to $1,250,000 for new buildings; the hospital eventually will have a bed capacity of 600.——The annual benefit for the tuberculous at Northwood Sanatorium, Saranac Lake, was given at the Manhattan Opera House, New York, April 18. The sanatorium, founded in 1920, has accommodations for twenty-two patients; among the directors are Dr. James A. Miller, Dr. Edward R. Baldwin and Dr. Joseph Brettauer, Saranac Lake; the secretary is Dr. Edgar Mayer, also of Saranac Lake.——The second annual conference of the Hospital Association of New York State will be at the St. George Hotel, Brooklyn, May 27-28; among others, Dr. William A. Jewett of the Kings County Medical Society will discuss "Medical Aspect of the Nursing Situation;" Mr. George F. Sauer, superintendent, Lenox Hill Hospital, New York, "Medical or Nonmedical Anesthetists?" The subject for the afternoon session, May 28, will be "Hospital Care of the Industrial Injured in a General Hospital."

New York City

Research Fellowship.—The Montefiore Hospital for Chronic Diseases announces the establishment of the Hilda Stich Stroock Research Fellowship, with an honorarium of $1,200 a year. The fellowship may be taken in the medical, neurologic, tuberculosis or cancer divisions. Applications should be sent to the medical director of the hospital, Gun Hill Road, New York City, with a brief account of previous training, letters of recommendation, and a general plan of the work contemplated.

Society News.—Dr. John M. Wheeler has been elected president of the New York Ophthalmological Society for 1926; Dr. Francis W. Shine, vice president, and Dr. John H. Dunnington, secretary-treasurer.——Dr. Howard V. Merrell was elected president of the Flatbush Medical Society, April 9, succeeding Dr. Stanley B. Thomas; Dr. Harry H. Patrie was elected secretary.——About a thousand persons attended the sixth annual banquet, April 10, of the Italian Medical Society of Brooklyn, under the presidency of Dr. Paul C. Fleri; the vice president, Dr. Francis Caponegro, was toastmaster. Among the speakers were Dr. O. Paul Humpstone, president, Kings County Medical Society; Dr. Giuseppe Previtali, president, Associated Italian Physicians in America; Dr. Walter A. Sherwood, president, Associated Physicians of Long Island, and Dr. John S. Read, of the Long Island College Hospital.——Dr. George de Schweinitz, Philadelphia, formerly president of the American Medical Association, was invited to take part in the discussion at the stated meeting of the New York Academy of Medicine, April 15, when Dr. Walter D. Sheldon, Mayo Clinic, Rochester, Minn., spoke on "The Diagnostic Significance of Visual Field Changes in the Localization of Brain Tumor," and Dr. Ward A. Holden on "Papilledema and Papillitis."

NORTH CAROLINA

Superintendent Appointed.—Dr. John Donnelly, Charlotte, has been appointed superintendent of the new Mecklenburg County Tuberculosis Sanatorium, which will open, June 1. Dr. Donnelly served during the World War with the tuberculosis unit of the eightieth division, and for years has been in charge of the tuberculosis work of Charlotte and Mecklenburg county.

Hospital News.—Dr. Lester A. Crowell, Lincolnton, has been made president of the new Caldwell Hospital Company. The company has secured the property of the former Lincolnton Hospital, which will be remodeled and enlarged. Dr. Robert W. Petrie, Charlotte, secretary, will assume the direction of the hospital about June 1; among the directors are Drs. William F. Elliott and Gordon B. Crowell.

PENNSYLVANIA

Society News.—Dr. Arthur C. Morgan, professor of applied therapeutics, Temple University Medical School, Philadelphia, addressed the Lancaster City and County Medical Society, April 7, on "Symptoms of Diagnostic Value."——Dr. Elmer H. Funk, assistant professor of medicine, Jefferson Medical College, addressed the Berks County Medical Society, April 13, on "The Diagnosis and Treatment of Pneumonia."——The Westmoreland County Medical Society will hold its fifth annual clinic and banquet at the Country Club, Greensburg, May 6, to which the adjacent county medical societies are cordially invited. The clinics will be held by Drs. Elliott P. Joslin and Frank H. Lahey, both of Boston.——Dr. Joseph V. Klauder addressed the Lehigh County Medical Society, Allentown, March 9, on "Common Skin Diseases."

Personal.—Mr. Joseph Noh, a member of the faculty of Purdue University, Lafayette, Ind., has been appointed full-time secretary of the Pennsylvania Pharmaceutical Association with headquarters in Harrisburg.——Dr. Rush E. Castelaw has resigned as medical superintendent of the Williamsport Hospital, Williamsport.——Dr. Mahlon B. Ballard, Troy, has been appointed county medical director for Bradford County.——Dr. John W. Wright, Erie, resigned April 1, as attending physician to State Tuberculosis Clinic no. 3, after having been connected with the state department of health in this capacity for nineteen years; Dr. Katharine H. Law Wright has been appointed as his successor.——Dr. Herbert H. Holderman has been appointed surgeon-in-chief of the Locust Mountain Hospital at Shenandoah, which will be opened soon. The hospital was started under private auspices, but during the past year has been taken over by the state welfare department. Dr. Holderman is a native of Shenandoah.

Philadelphia

Personal.—Dr. Myron A. Zacks has been appointed chief of the department of otolaryngology at the Northwestern General Hospital.——A testimonial dinner was tendered Dr. Albert P. Brubaker at the Adelphi Hotel, March 27, by the alumni of the Philadelphia College of Dental Surgery and the Dental Department of Temple University, of which Dr. Brubaker has been professor of physiology for more than twenty years.

Society News.—Francis G. Benedict, Sc.D., director of the nutrition laboratory, Carnegie Institution of Washington, Boston, addressed the Physiological Society of Philadelphia, March 15, on "Perspiratio Insensibilis: Its Significance in Physiology and Pathology and Its Relationship to Skin Temperature and Heat Loss."——Dr. Charles G. Kerley, New York, addressed the Philadelphia Pediatric Society, April 13, on "Roentgen-Ray Demonstration of Gastro-Intestinal Abnormalities, with Symptomatology and Treatment."

Philadelphia County Medical Society.—A drive for an endowment fund of $250,000 will be started by this society within a few weeks, the president, Dr. Moses Behrend, announces, to provide for an adequate library and postgraduate courses for members, one of which will be for instruction in making periodic physical examinations, and another to bring up to date the knowledge of practitioners who have been out of schools for years. The new building of the society was formally dedicated, April 20-21.

RHODE ISLAND

Health at Providence.—Telegraphic reports to the department of commerce from sixty-eight cities with a total population of twenty-nine million, for the week ending April 3, shows that the highest mortality rate (30.4) was in Providence, and that the rate for the group of cities was 17.7. The mortality rate for Providence for the corresponding week last year was 16, and for the group as a whole, 14.7.

SOUTH CAROLINA

University News.—A campaign is in progress to raise an endowment fund for the Medical College of the State of South Carolina under the chairmanship of Dr. D. Lesesne Smith, Spartanburg. An organization will be formed in every county in the state. Letters have been sent to every graduate of the state medical school, requesting their cooperation.

Collaborating Epidemiologists.—The secretary of the state board of health announces that fourteen collaborating epidemiologists were appointed recently to assist the U. S. Public Health Service and the state health department in securing accurate reports of communicable diseases in South Carolina. The appointees are members of county health units; local physicians will report communicable diseases to them in their districts; they will in turn forward a summary to the state board of health, which will then forward a summary to the U. S. Public Health Service. Among the collaborating epidemiologists appointed are:

Dr. Erin E. Epting, Anderson.
Dr. Leon Banov, Charleston.
Dr. Wallace L. Poole, Gaffney.
Dr. Archie B. Hooton, Darlington.
Dr. Henry G. Callison, Newberry.
Dr. Grover C. Bolin, Orangeburg.

SOUTH DAKOTA

Meeting of Health Officers.—The superintendent of the state board of health, Dr. John F. D. Cook, has called a meeting of all county and city health officers of the state to be held at Aberdeen, May 18, preceding the annual meeting of the state medical association in that city; among the speakers will be Dr. George M. Boteler, director of the Brown County Health Department, whose subject will be "County and City Organization"; Dr. Merrill W. Pangburn, director, Pennington County Health Department, "Goiter Survey"; Dr. Rodell C. Warne, superintendent, Davison County Board of Health, "Communicable Disease Control"; Dr. Francis E. Bouza, superintendent, Mellette County Board of Health, "Moses, the Premier Health Officer," and Dr. Joseph C. Waterman, superintendent, Gregory County Board of Health, "Organization of County Health Officers."

UTAH

Society News.—A ten story medical arts building for the exclusive use of the medical and allied professions is being erected at Salt Lake City.——The Salt Lake County Medical Society devoted its February meeting to medicomilitary matters; the program for the March meeting of the society was arranged by the Utah Ophthalmological Society.

State Medical Meeting.—The Utah State Medical Association will hold its annual meeting at Salt Lake City, May 6-8. The house of delegates will meet each day at 12 o'clock; the banquet will be at 8 o'clock at the Hotel Utah, Friday evening. Among the visiting speakers will be Dr. Harry Gideon Wells, professor of pathology and chairman of the department, University of Chicago, and Dr. Anton J. Carlson, professor of physiology and chairman of the department, University of Chicago.

GENERAL

Examination in Otolaryngology.—In addition to the examination held at Dallas, Texas, April 19, and San Francisco, April 27, the American Board of Otolaryngology will hold an examination at the Royal Victoria Hospital, Montreal, June 1. Information may be secured from the secretary, Dr. Hanau W. Loeb, 1402 South Grand Boulevard, St. Louis.

Automobile Fatalities.—During the four weeks ending March 27, the total number of automobile fatalities in seventy-nine large cities in the United States reported to the department of commerce was 348. Fifteen of the cities showed no automobile fatalities during this period, while New Bedford and Waterbury have reported no fatalities during the last twelve weeks.

Society News.—The Central Tri-State Medical Association will meet in Huntington, W. Va., May 6; Dr. George W. Crile, Cleveland, will speak on "Certain Problems in the Treatment of Diseases of the Thyroid Gland with Special Reference to Hyperthyroidism"; Dr. John A. Kolmer, Philadelphia, on "The Pathology and Immunity of Syphilis in Relation to Serum Diagnosis and Treatment"; Dr. Stewart R. Roberts, Atlanta, "The Heart Muscle," and Dr. Hugh Cabot, Ann Arbor, Mich., "The Present Status of the Treatment of Prostatic Obstruction."

Study of Tumors of Lymph Nodes.—The American Association of Pathologists and Bacteriologists has inaugurated a "registry" for the study of primary tumors of the lymphatic system, and has appointed a commission comprising Dr. James Ewing, New York, and Dr. Frank B. Mallory, Boston. Major James F. Coupal, Medical Corps, U. S. Army, will collect gross and microscopic material, histories and other information. The cases will be referred to various investigators for opinion, and, ultimately, collated. The association has decided to announce each year a field of work that would be especially welcome on the program of the following year; at the annual meeting, April 2, Dr. Hans Zinsser, Boston, was elected president; Dr. James W. Jobling, New York, vice president; Dr. Frank B. Mallory, Boston, treasurer, and Dr. Howard T. Karsner, secretary, 2109 Adelbert Road, Cleveland.

Conference on Medicinal Wines.—Gen. Lincoln C. Andrews, federal prohibition administrator, held a conference, April 8, with about thirty-five representatives of organizations interested in the distribution of medicinal wines. The conference was called by Mr. H. K. Weeks, recently appointed federal supervisor of wine control, and was the first meeting to be held by prohibition officers with representatives of manufacturers and distributors of medicinal wines. Among others, Dr. William C. Woodward, Chicago, representing the American Medical Association, attended the conference. Although treasury department officers would not disclose the prospective plans, it is understood that General Andrews may consider lifting the present regulations which prohibit the importation of wines for medicinal purposes, but that no further extension of existing regulations in the issuing of wine prescriptions will be allowed.

Information Wanted on Effects of Gas Warfare.—The board of physicians recently appointed by the director of the U. S. Veterans' Bureau to study the residual effects of war gases (The Journal, March 20, p. 882) desires the cooperation of physicians. The board will welcome first-hand opinions and reprints of any article which a physician may have written on the subject; also contributions from personal experience. Information is particularly desired on the following points:

1. Does any war gassing received in action result in disability which is relatively lasting and permanent?
2. Does it cause lasting anatomic (pathologic) changes, with or without disturbance of function (symptoms and disability)?
3. What organs or systems may thus be permanently affected or disturbed?
4. What symptomatology may exist under these circumstances?
5. If war gassing does produce relatively permanent effects, may a similar condition or conditions be produced by other agencies (diseases such as influenza, tuberculosis or effort syndrome)?

American Health Congress.—Among the joint sessions that will characterize the American Health Congress, Atlantic City, May 17-22, will be a joint session of the American Child Health Association, the American Public Health Association, the National Organization for Public Health Nursing and Conference for State and Provincial Health Authorities of North America, which will discuss public health administration of communities. Three plans for the health administration of cities will be described by men who have developed them; a fourth health plan for the county health organization will be presented. Many other member organizations of the National Health Council will participate in the congress, and in addition to sectional medical and joint sessions there will be four general sessions. Some of the speakers will be Sir Arthur Newsholme, "Relative Values in Public Health Work"; Prof. C.-E. A. Winslow, "Whose Responsibility Is Public Health?" Dr. Ray Lyman Wilbur, "Is Public Health Improving the Race?" and George E. Vincent, Ph.D., and Dr. Alice Hamilton, "International Health Work." Mr. Herbert Hoover will give the opening address for the American Child Health Association.

FOREIGN

American Hospitals Closed.—It is reported from London that two large American hospitals in South China have been closed on account of activities of the "Red labor unions". The Canton Hospital, operated by the American Presbyterian Mission, was blockaded by the unions, and food and electric supplies shut off. The American Hospital at Wuchow was also compelled to close; its medical staff left on board an American gunboat.

Health in Palestine.—There were only two deaths from malaria last year in Jerusalem, against 113 deaths in the last nine months of the preceding year. The League of Nations Non-Partisan Association says that pilgrims to Palestine must undergo inspection for malaria before entering the Holy Land, and that a malaria quarantine has been ordered on the Hedjaz and Sinai railways because of the crowds of Moslems, Christians and Jews entering and leaving Palestine annually. The decreased malaria infection has been brought about partly through the draining of swamps and the conversion of coastal plains into lands suitable for cultivation, partly by a war on mosquitoes for six years, which has prevented fresh infections in all of the towns except Haifa, and partly by constant surveillance of the children in the public schools. Trachoma has been reduced among Jewish school children from 35.4 per cent in 1920 to 10.5 per cent in 1925. Smallpox is well under control. Typhus is only sporadic; bubonic plague has been greatly reduced by the rat-proofing of houses and other measures, and no case was reported in Palestine in 1925. Measles, tuberculosis and chickenpox, however, were serious health problems: there were 1,232 deaths from measles among 6,936 cases. Other diseases noted to a great extent in the latest epidemiologic report of the League of Nations are influenza, epidemic ulcer, leprosy and pneumonia. The birth rate noted was 51.3 per thousand, or an increase of about 4 per cent over the previous year. The infant mortality was 184.8 per thousand births. The settled population of Palestine is estimated in the report as 681,245, of which number 95,000 are Jews, 505,000 Moslems and 74,000 Christians; about 103,331 Bedouins wander here and there. The league obtained most of its facts from the annual report of the department of health of Palestine.

Deaths in Other Countries

Dr. A. Haegler, Basel, ex-president of the Swiss Medical Association, aged 62, of cancer of the rectum.——**Dr. F. Dimmer**, professor of ophthalmology, Vienna, the pioneer in photography of the fundus of the eye, and author of a classic work on the ophthalmoscope in 1921, aged 71.——**Dr. M. A. van Keerberghen**, Brussels, one of the founders of the Brabant Medical Society, killed in an automobile accident, aged 70.——**Dr. W. Permewan**, formerly lecturer in laryngology, University of Liverpool, March 9, aged 60.——**Dr. G. Gradenigo**, professor of otorhinolaryngology, Naples, founder and editor of the *Archivio di Otologia, Rinologia e Laringologia*, now in its thirty-seventh volume, and president of the Italian specialist society.——**Dr. J. Kyrle**, professor of dermatology and syphilis, Vienna, editor of the *Wiener klinische Wochenschrift*.——**Dr. P. Bunge**, emeritus professor of ophthalmology, Halle, aged 73.——**Dr. Zoege von Manteuffel**, emeritus professor of surgery, Dorpat.——**Dr. Tous y Biaggi**, editor of the *Revista Española de Medicina y Cirugía*, Barcelona.——**Drs. Maisel, Meiltscharski and Hirschfeld**, connected with a private clinic at Moscow, were shot by a former patient because they had been unable to cure him. The assailant killed himself also.——The death is reported of **Dr. Levy**, assistant professor of physiology, Turin. She was with a skiing party overwhelmed by an avalanche.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 27, 1926.

The Problem of the Intoxicated Motor Driver

The "True Temperance Scientific Committee," which consists of a number of physicians and others interested in the problem of alcohol who take up an antiprohibition attitude, has issued a useful pamphlet on the difficult current question of the intoxicated motor driver. The committee insists that the word "drunk" is not enough to signify an offense and thinks that legislators should abandon its use. "Simple drunkenness" (to adopt the phraseology of the licensing statistics) should not be a legal offense at all; it is not the drunkenness that matters to the law; it is the nuisance or harm to the public committed by a person in a state of absence of self-control with which the law is properly concerned. If he is incapable on the public highway, it is the business of the police to look after him not because of his drunkenness but because of incapacity and the consequent danger to himself, and possibly to others. If he is disorderly, he must be taken in hand for the public nuisance of his disorderliness, whether due to drunkenness or another cause. If he is steering a car in a zigzag course along the highway, it is his loss of controlling power over a dangerous vehicle on which the attention of the law should be fixed. When the criminal justice bill was going through the house of commons, an effort was made to get rid of the word "drunk." The effort failed, because the substituted words proposed were "in a state of intoxication whereby his capacity to act is impaired." Those words, the committee considers, were not the best. The committee would not really carry the matter further than the present dual "drunk and incapable." It is not enough to say "any person who is drunk in charge on any highway or other public place of any mechanically propelled vehicle," or who is "in a state of intoxication whereby his capacity to act is impaired"; the act should read, "any person who is in charge, etc., while in a condition which prevents him from exercising adequate control of the vehicle," or words to a like effect. Then the evidence would properly be concentrated on the signs of the lack or presence of control, and such evidence would be apparently easier and more satisfactory from any witness, and would be to the point. Obviously, it would mean setting a higher and different standard of sobriety for motorists as compared with pedestrians; but that is only right: a collision with a pedestrian has not the consequence of a collision with a motor car. Meanwhile, and until the law is made more explicit, it should be possible for magistrates to give varying meanings to the word "drunk" according to the varying collocation. A word in a statute is interpreted with reference to its subject matter; it should not be an undue extension of that principle to interpret the word "drunk" (admittedly an often vague term) in accordance with the matter of the charge, and give it a different meaning when used of a person in charge of a motor car from that applicable to a pedestrian or to a mere passenger in a motor car. It is suggested that a statute should condemn a person in charge of a motor car "while in a condition which prevents him from exercising adequate control"; and this phrase should apply to others than those whose condition is the result of too much alcohol. A man may be in such a condition from various causes—nervous disease, for example. But the result on the victim of his bad driving is the same. Then, however, the innocent sufferer would be punished. Punishment, as we view it today, is intended to be remedial, not vindictive, and here is particularly a case in which what the public wants is a remedy against the danger of bad driving. The most direct method of obtaining this protection is not by fines and imprisonment but by stopping a man liable to be unfit to drive from driving. The taking away or suspension of the license is therefore the best remedy. That can be applied without injustice to the man whose helpless condition arises from disease not of his own making as well as to him whose incapacity comes from drink. One has no more right to drive than the other.

The Proposed Separate Medical Register for the Irish Free State

The *Irish Times* publishes proposals which were submitted to a subcommittee of physicians last December by the president of the Royal College of Surgeons in Ireland, with a view to a settlement of the controversy concerning the establishment of a separate medical register and the consequent isolation of Free State physicians from the general medical council (described in previous letters). The proposals, which were submitted afterward to the Free State government in a modified form, were as follows: "In order to give effect to the wishes of the Saorstat government to control the registration and the discipline of medical practitioners in the Saorstat, and at the same time to preserve the educational advantages and the world-wide status given by the partnership in the general medical council, the following procedure is suggested: 1. Renew the partnership in the general medical council until such times as either the government of the Saorstat or of England may apply for a termination of such partnership. 2. (*a*) The government of the Saorstat to set up a medical register for the Saorstat and a medical council to supervise and control such register; (*b*) direct the Saorstat medical council that any person of good repute who holds a medical degree or qualification from a university or college, etc., which is recognized by the Saorstat medical council shall be eligible for entry on the Saorstat medical register; (*c*) direct the Saorstat medical council that, in addition to the universities and colleges, etc., which may be recognized by the Saorstat medical council, any university or college, etc., which may be recognized from time to time by the general medical council shall be recognized by the Saorstat medical council; (*d*) any citizen of the Saorstat who may wish to practice in the Saorstat must have his name on the Saorstat medical register; (*e*) any person who is not a citizen of the Saorstat shall be debarred from practicing in the Saorstat unless his name is on the Saorstat medical register or on some section of the general medical register." When the amended proposals were submitted to Mr. Cosgrave and Mr. P. McGilligan, minister for industry and commerce, they were received sympathetically, but long delays have followed, and the present position is obscure. The government has passed an act extending the existing arrangements with the general medical council until August 1, and it is hoped that before that date a permanent settlement will have been reached. For the moment, negotiations between the physicians and the government seem to be at a standstill.

Local Insurance and Emigration

The question raised in the house of commons last year as to whether schemes of social insurance act as a deterrent to emigration has been investigated by an interdepartment committee. The report presented to the secretary for the dominions gives the two chief causes which tend at present to discourage emigration as bad trade conditions and the restrictions placed by the dominion authorities on the granting of assisted passages. The cumulative effect of the various schemes of social insurance is considered to be a subsidiary cause. "These schemes," says the report, "have an effect in discouraging migration, both directly as a result of the sense of security they induce and indirectly in that they raise the standards of living and so counteract to an appreciable extent the attraction of the life of independence offered in the dominions." The national health insurance scheme is not considered to act perceptibly as a check on migration. Unemployment insurance and the comparatively recent extension of outdoor poor law relief to able-bodied persons are considered to discourage migration to an appreciable extent at precisely those ages when, other thing being equal, it might be expected that the opportunities of oversea life would prove most attractive. Old age pensions are not regarded as having much effect on migration, and the effect of the widows' and orphans' pension scheme, it is stated, must largely be a matter of conjecture at this early stage of its operation. It is considered, however, that this scheme will have some influence in the case of married men, who will naturally take into account the loss, on migration, of the provision made for dependents under the scheme, and that the scheme will be a material factor in the case of widows contemplating migration. The view is taken that when openings in the dominions are more varied and attractive, when bolder and more comprehensive schemes of settlement are undertaken, and if the present restrictions on assisted migration can be modified and more opportunities provided for the oversea settlement of families and women, social insurance schemes will have comparatively little effect. The committee recommends that the general question of the standardization of schemes of social insurance throughout the empire should be considered by the imperial conference; that the attention of the committee on the administration of the unemployment insurance acts should be drawn to the attitude toward migration of persons approaching 18 and for a few years thereafter; that a year's pension should be paid on migration to persons drawing pensions under the widows' and orphans' and old age contributory pensions schemes; that the cost of medical examination of applicants for assisted passages who are insured under the national health insurance scheme should be paid under that scheme; that greater publicity should be given to the social insurance schemes that exist in the dominions, and that extended facilities should be provided for training juveniles in the elements of rural occupations.

JAPAN

(From Our Regular Correspondent)

March 16, 1926.

A Rare Medical Book

In the earthquake in Tokyo in 1923, a rare Dutch medical book, Kulm's "Tabula Anatomica," was destroyed. The old volume was the property of Prof. Dr. Matao Nagayo, director and professor in the Tokyo Imperial University. Nearly 150 years ago, in the Tokugawa era, the book was brought to Japan by a Dutch missionary. At that time people here knew very little about European medical science. It was therefore quite an epoch-making event in the medical history of Japan when Dr. Gempaku Sugita and his friends, earnest students of Dutch medical science, went to the postmortem of a criminal held at Kozuka Common, one of the execution grounds, in the suburbs of Edo (now Tokyo) and there studied anatomy, marveling at the exactness of the illustrations in the foreign book. Dr. Gempaku's account of his difficulty in translating the book, with his poor knowledge of Dutch, is related in his autobiography entitled "Rangaku Kotohajime" (Pioneering in Dutch Science). His "Kaibo Shinsho" (New Anatomy) was the first translation in Japanese. A century elapsed, and Dr. Sensai Nagayo, father of Professor Nagayo, happened to get possession of the original book of "Kaibo Shinsho." He valued it more highly than any other book in his library and would not part with it, though he sent it to an exhibition in Dresden and another time displayed it in the Far East Tropical Medicine Congress held in Java. Great was his son's sorrow when the heirloom was burned in the earthquake disaster. But his joy was even greater when he received another copy of "Tabula Anatomica," the gift of the Dutch medical scholar M. Van Roemer, ex-naval surgeon, of Java. He has written to Professor Nagayo that he was unable to attend the Far East Tropical Medicine Congress held in Japan last autumn, and that he sent the book to promote friendly relations between Japan and his country. In his letter of thanks the professor said that his joy was as if one's dead child had come to life again. He took the volume to the annual memorial service of dead medical sages held at Kozuka Common to show it to his friends. It is reported that after consulting with Drs. Kitasato and Miyakawa he has decided to donate the invaluable book, rare even in Holland, to the new library of the Tokyo Imperial University, now in course of reconstruction.

Lepers

According to the census taken Nov. 16, 1925, by order of the department of home affairs, the number of lepers in Japan amounts to 15,400. This shows a decrease of 861 compared with the investigation of March, 1919.

Menstruation of Students

Dr. Takao Hosaka, following an investigation of about 100 healthy students in the Tokyo Girls' Dental College, reports that the average age of the first menses is about 14½ years. About 17 per cent of them had no knowledge of menstruation before its onset in themselves. Some 60 per cent had been told about it by teachers or friends, and about 13 per cent, by their mothers or elder sisters. Their first experiences of it aroused various emotions: "wonder" and "terror," accompanied by "uneasiness"; though about 8 per cent were pleased that they had grown to adulthood. About 7 per cent thought nothing of it in particular. The average course is about five days; in some cases four days, and in others, three days. In only three girls was the duration more than a week. As to the period between menses, forty-two girls are of "retrogressive nature" (twenty-eight days), while thirty-nine are of "progressive nature" (more than thirty days). More than half of the girls complained of "uneasiness" in the lower abdomen; about a quarter of them of "pain" in the lower abdomen or loin; sixteen, of "weariness," "drowsiness" of "poor appetite"; and three felt refreshed.

Japanese Practitioners in North Sakhalin and Siberia

At the Moskva meeting of the oil field committee, concerned with the North Sakhalin treaties, it was decided that half of the laborers in the oil fields of North Sakhalin should be Russians and half Japanese, and that Japanese physicians might be engaged to attend the laborers. It was also agreed that resident Russians who are not oil field laborers may consult Japanese physicians, and that medical certificates and necropsy certificates of these physicians will be acknowledged there. Attending of Russians who are not oil field laborers will be subject to certain regulations. The arrangements are said to have been made by Rear Admiral Kumagawa of the Japanese committee, and one member of the Russian committee. Japanese physicians were permitted to practice in Siberia almost without restrictions toward the end of the monarchical days, but under the soviet régime this is prohibited. Many wish to regain the former privilege, and one of the Japanese authorities expresses his private opinion that a permanent treaty of reciprocity between the two governments should cover this matter.

Improvement of the Electrocardiogram

Mr. Toyoya Yasuhara, director of the clinical laboratory in Osaka, is one of several who have been devoting themselves to improving the electrocardiograph. The merits of Mr. Yasuhara's newly designed apparatus are said to be that it is simple enough to be handled even by a nurse, and that it can draw curves on white paper in Japanese ink, rendering the trouble of photographing unnecessary.

Tattooing of Female Ainus

Dr. Kamataro Nakajima of the Medical College of the Hokkaido Imperial University has made investigations of the tattooing of Ainu women in the tribe called Kamikawa Ainu. This tribe, now settled in Chikabumi, Asahikawa, Hokkaido, consists of sixty houses and more than 280 natives. Dr. Nakajima found fifty-four tattooed women among 148 female Ainus. The Ainus had a superstition that women had much bad blood in their bodies and had to be tattooed in order to be bled and made strong and healthy. They also practiced tattooing as a form of therapeutics and preventive medicine. Adopting the same method as the Melanesian race, the tattooing was begun around the mouth when a girl became 9 years of age. It was later extended as far as each forearm. At last it was completed on the back of each hand by the time she attained her marriageable age of 15 or 16 years. Parents would force such a painful practice on their daughter, for a girl whose tattooing was complete was regarded as qualified for marriage as an adult. Moreover, it may be presumed that with them tattooing was a symbol of beauty and exerted a sexual attraction. Now nobody below the age of 28 is found tattooed. The custom has fallen into disuse since they have come in contact with the Yamato race (pure Japanese)

RIO DE JANEIRO

(From Our Regular Correspondent)

March 15, 1926.

Public Health Congress

The third Brazilian Congress of Hygiene will be opened at São Paulo, September 28. Preparations are so far advanced that the meeting will surely be as successful as those held at Rio de Janeiro and Bello Horizonte. The following subjects have been suggested for discussion by different agencies which will be represented at the congress; such as the national department of public health, the Rockefeller Foundation, local health departments, Oswaldo Cruz Institute, and the Brazilian Public Health Society: epidemiologic rôle of flies; water purification; home prevention of malaria; worm infestation index; epidemiology and prophylaxis of malaria in Brazil; permanent organization of local health departments; epidemiology and prophylaxis of typhoid fever; prevention of leprosy; effect of sanitary works on public health; work accomplished in Brazil in protecting milk supplies; infant hygiene.

Myopathy with Heart Changes

Dr. Pires recently exhibited before the Society of Neurology, Psychiatry and Legal Medicine a patient with atrophy of the muscles in the chest, shoulder and arm, as well as in the abdomen and lumbosacral region. Lordosis was quite marked. The flattening of the sternum caused a sort of shoemaker's chest. The disease was undoubtedly a form of Erb's juvenile type. The personal and familial history proved immaterial, the condition dating from as far back as the patient could remember. A study of the cardiovascular system by Dr. P. da Cunha showed interference with the deep thoracic blood flow; upper costal breathing with the aid of auxiliary muscles; displacement of the heart toward the abdominal cavity; enormous enlargement of the heart; diaphragm, almost motionless. The myopathy has apparently entailed changes in the myocardium. A number of similar cases have already been confirmed in the necropsy, abroad by Marinesco and A. Leri and here by da Cunha himself, who described several in his professorial thesis.

Honors to Couto

As stated in a previous letter, Dr. Couto, the president of the National Academy of Medicine and a professor in the Rio de Janeiro medical school, is now touring Europe. The lecture he delivered before the Berlin Medical Society was attended by high government officials as well as the most prominent German scientists. His lecture dealt with cardiac changes noted during the treatment of malaria, yellow fever, beriberi and Chagas' disease. Even the newspapers commented favorably on the visit. In his presentation speech, Geheimrat Goldscheider recalled that Couto had been one of the first in starting, after the war, a subscription to enable German scientists to continue their research work. During his stay in Germany, Couto will be a guest of the department of foreign affairs. The president of the republic, Marshal von Hindenburg, received the Brazilian professor at a private audience.

Duodenal Drainage

Prof. O. de Oliveira described before the Academy of Medicine some experiments and clinical trials of duodenal drainage as developed by Einhorn, Meltzer and Lyon, and now set forth in a thesis by Dr. Thibau, Jr., of Oliveira's clinic. The experiments were made under Oliveira's supervision by Thibau, with the assistance of Dr. Figueiredo Vasconcellos, chief of the laboratory. Thibau has improved the technic, and his suggestion as to the introduction of the tube by the nose obviates some difficulties so far encountered. As relates to diseases of the pancreas, Thibau's original experiments show the influence of splenic juice on the enzymatic potency of the duodenal content, thus confirming previous uncertain clinical data. According to Oliveira duodenal drainage is a great help in diagnosis, can solve many pathologic problems, and may render much assistance in treatment, especially in diseases of the gallbladder and gall ducts.

BERLIN

(From Our Regular Correspondent)

March 13, 1926.

The Physicians of Germany in 1925

In an article in the *Deutsche medizinische Wochenschrift,* the medical statistician Prinzing discusses the distribution of German physicians in 1925. It appears from the article that the number of physicians in Germany, inclusive of the Saar region, in 1925 was 41,650. According to the census of June 16, 1925, the population of Germany was 62,478,872, which would indicate 6.67 physicians to 10,000 inhabitants. This shows an increase over the record of 1901 of more than 33 per cent, and over that of 1913 of 30.5 per cent. For purposes of comparison, the relations of physicians to population are given for a number of pivotal years in table 1.

Table 1.—*Number of Physicians per Ten Thousand Inhabitants in Germany*

Years	No. of Physicians	Years	No. of Physicians
1901	4.92	1913	5.11
1905	5.08	1921	5 99
1911	5.02	1925	6 67

The absolute increase, as compared with 1921, was about 5,400. It cannot be ascertained exactly, since in the census of 1921 the ceded portions of Schleswig-Holstein and Upper Silesia were included, while the physicians of the Saar region were omitted.

Table 2 shows the number of physicians in the various German states in 1911 and in 1925. However, in some provinces of Prussia there have been a good many changes. The Saar region is included in the Rhine province.

Leaving out of consideration the chief urban centers, the states with the highest percentage of physicians were, in 1925, Hesse-Nassau, Hesse, Baden and Waldeck, all of which have had, for many years, a large number of physicians. Hesse-Nassau, with its 2,400,000 population, has the large cities Frankfort-on-the-Main and Cassel, three important health resorts (Wiesbaden, Homburg, Ems) and the University of Marburg, in all of which there are many physicians. In the state of Hesse, 17.7 per cent of the physicians live in Giessen and Nauheim. In Baden, the number of physicians is increased by the two universities of Freiburg (im Breisgau) and Heidelberg and the health resort of Baden-Baden. Waldeck owes its high percentage of physicians to the health resort at Wildungen. In West Prussia-Posen, the large number of physicians is doubtless partly due to emigration from the ceded districts.

Table 2.—*Number of Physicians to Ten Thousand Inhabitants in the Various German States, Etc.*

	Number of Physicians to 10,000 Inhabitants 1911	Number of Physicians to 10,000 Inhabitants 1925	Percentage of Increase
East Prussia	3.39	4.42	30
Greater Berlin	10.90	13.40	23
Brandenburg	4.04	5.00	24
Pomerania	3.81	4.92	29
West Prussia-Posen	.....	7.51	..
Silesia	3.87	5.19	34
Saxony	4.55	5.86	29
Schleswig-Holstein	5.28	6.37	21
Hanover	4.01	6.05	23
Westphalia	3 75	5.14	37
Hesse-Nassau	7.14	8.54	20
Rhine Province	4.96	5.83	18
	3.24	4.71	45
	4.97	6.48	30
Bavaria	5.31	7.03	32
Saxony	4 84	5.75	19
Wurttemberg	4.42	5.91	34
Baden	6.03	7.38	22
Thuringia	4.49	5.74	28
Hesse	5.95	7.94	33
Mecklenburg (the two states)	4.74	6.36	31
Oldenburg	3.61	4.80	33
Brunswick	5.64	6.95	23
Anhalt	4.38	5.55	27
Lippe	3.70	5.83	58
Waldeck	8.91	7.50	..
Hamburg	7.45	10 38	39
Bremen	7.63	9.75	28
Lübeck	7.12	9.96	40

Table 3.—*The Number of Physicians in Cities of Various Size in 1925*

Cities, Towns and Communes	Number of Inhabitants	Actual Number of Physicians	Number of Physicians per 10,000 Population (1925)	Number of Physicians per 10,000 Population (1911)
Communes, under 10,000 pop.	35,019,100	13,323	3.80	2.7
Cities, 10,000-20,000 pop.	3,529,586	2,543	7.20	6.4
Cities, 20,000-50,000 pop.	4,527,529	4,268	9.43	
Cities, 50,000-100,000 pop.	2,879,167	2,995	10.40	8.6
Cities (46) with more than 100,000 population	16,519,490	18,521	11.21	9.6
Germany as a whole	62,474,872	41,650	6.67	5.0

The variations in other parts of the country are due mainly to the mode of distribution of the population among the towns, large cities and rural districts. The Rhine Province and Westphalia, however, in spite of the great number of large and medium-sized cities, have a low percentage of physicians. This is due to the facts that in these states medical treatment is largely in the hands of physicians engaged by miners' unions, and that a large number of workmen are delegated to each physician. According to an enumeration in twenty-nine cities in the industrial district comprising portions of the Rhine Province and Westphalia in the report of the League of German Assistant Physicians, and covering a population of 2,700,000, there were 5.3 physicians to 10,000 inhabitants, whereas, in German cities with more than 10,000 inhabitants, the proportion of physicians was 10.32.

A comparison of the number of physicans in cities of various size, as recorded in 1925, is given in table 3.

The increase in the number of physicians in towns with less than 10,000 inhabitants furnishes evidence that the rural sections are better provided for than formerly. The old complaint that young physicians were reluctant to settle down in rural communities can no longer be advanced. If the new list of physicians is compared with the prewar list, it will be noted that there are now physicians in many rural communities in which there were none before the war.

Table 4 gives a comparative view of the number of physicians per 10,000 inhabitants in the eleven cities of Germany with more than 400,000 inhabitants, arranged in diminishing order of population.

Table 4.—*Number of Physicians per Ten Thousand Inhabitants in the Eleven Cities of Germany with More Than Four Hundred Thousand Population*

Cities in Diminishing Order of Population	1901	1911	1925
Greater Berlin	11.7	10.9	13.4
Hamburg	8.1	7.6	10.7
Cologne	9.5	10.5	10.2
Munich	14.1	16.5	22.0
Leipzig	9.9	8.8	8.3
Dresden	11.2	9.4	10.8
Breslau	12.7	11.6	14.0
Essen	6.2	4.7	4.8
Frankfort-on-the-Main	12.0	11.6	14.8
Düsseldorf	8.0	8.1	10.2
Hanover	11.5	10.4	9.6

The decrease shown in the proportion of physicians in a few cities is, in a sense, only apparent, and is due to the fact that suburbs with fewer physicians than the more central districts have been annexed. The proportion of physicians in Munich is especially high, owing to the large number of physicians on the medical faculty of the University of Munich. That factor plays a bigger part in a city of the size of Munich than it does in Greater Berlin, which is almost six times as large. The proportion of physicians in Essen is small because, among the 220 resident physicians, there are forty-one who are engaged by miners' unions.

Health Week

With a view to enlighten the population of Germany on hygienic subjects, a health week has been set apart which will be celebrated throughout the country. The campaign will be carried on by means of lectures, exhibits, motion pictures and the like, which will be aided by physicians and heads of health insurance societies. The preparations for the event will be in the hands of a large committee, of which Professor Hamel of the federal ministry of the interior will be chairman. Subcommittees have been appointed to serve in the several states. In Berlin, seventy-two public lectures, illustrated by lantern slides and motion pictures, will deal chiefly with the protection of juveniles, children and the unborn child. Outdoor entertainments will accentuate the importance of light, air and sunshine in securing and maintaining proper health conditions. The representations in the motion picture theaters will be specially designed to inculcate sound health principles. Special lectures for women on health questions of the hour will be provided. About fifty lectures and exhibits will be organized in industrial centers, dealing mainly with occupational hygiene and care of the health. The labor unions, the employers' associations, the medical profession, the motion picture corporations and the public welfare societies are working hand in hand to insure the success of the undertaking.

Marriages

Valcoulon Le Moyne Ellicott to Miss Mary Purnell Gould, both of Baltimore, April 5.

Louis William Perman, New York, to Miss Clara Lillian Wolff of Brooklyn, March 27.

Arthur H. Burleson to Miss Kittie Walkinshaw, both of Olivet, Mich., February 7.

Deaths

Horace John Howk ⊕ Mount McGregor, N. Y.; University of Michigan Medical School, Ann Arbor, 1907; member of the American College of Physicians; past president of the Saratoga County Medical Society; instructor of clinical pathology at his alma mater, 1907-1908; lecturer at the Albany (N. Y.) Medical College; on the staff of the Loomis (N. Y.) Sanatorium, 1908-1911; physician in charge, Metropolitan Life Insurance Company Sanatorium, and on the staff of the Glens Falls (N. Y.) Hospital; aged 47; died, April 8, at the Johns Hopkins Hospital, Baltimore.

Amos Gale Straw, Manchester, N. H.; Medical School of Harvard University, Boston, 1890; member of the Massachusetts Medical Society, the New Hampshire Medical Society and the Radiological Society of North America; served during the World War; local bacteriologist to the Manchester Board of Health; on the staffs of the Beacon Hill, Notre Dame and Balch hospitals; president of the staff of the Elliot Hospital and roentgen-ray expert to the U. S. Veterans' Hospital, no. 95, Northampton, Mass.; aged 61; died, March 13.

Max Kahn ⊕ New York; Cornell University Medical College, New York, 1910; associate professor of biological chemistry, Columbia University College of Physicians and Surgeons; chief of the department of metabolism, Israel Zion Hospital, Brooklyn; discoverer of "intarvin"; director of the laboratories and chief of the department of metabolism, Beth Israel Hospital, where he died, April 8, of heart disease, aged 39.

Harold Williams, New Bedford, Mass.; Medical School of Harvard University, Boston, 1878; member of the Massachusetts Medical Society; and the American Climatological and Clinical Association; emeritus professor of theory and practice of medicine, Tufts College Medical School, and formerly dean of Tufts College Medical and Dental schools; aged 72; died, April 3, at St. Augustine, Fla., of heart disease.

Jacob Gilbert Zern, Lehighton, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1868; member of the Medical Society of the State of Pennsylvania; Civil War veteran; past president of the Carbon County Medical Society; formerly postmaster of Weissport and member of the state legislature; aged 81; died, March 20, of senility.

Charles Edwin Donlan, Malden, Mass.; Medical School of Harvard University, Boston, 1898; formerly superintendent of the Boston Almshouse and Hospital, Long Island, and the Lowell (Mass.) Almshouse; at one time on the staff of St. John's Hospital, Lowell; Spanish-American War veteran; aged 52; died, March 30, at Miami, Fla.

Norman S. Campbell, Bark River, Mich.; Michigan College of Medicine and Surgery, 1902; member of the Michigan State Medical Society; president of the Delta County Medical Society; aged 46; died, February 23, at St. Francis Hospital, Escanaba, of septicemia, following burns received when his home was destroyed by fire.

Adams Bailey Howard ⊕ Cleveland; Medical Department of the University of Wooster, Cleveland, 1892; member of the American Psychiatric Society; formerly superintendent of the Cuyahoga Falls Sanitarium and the Cleveland State Hospital; aged 66; died, April 1, of pneumonia.

George Ross, Richmond, Va.; University of Virginia Department of Medicine, Charlottesville, 1861; member of the Medical Society of Virginia; emeritus professor of obstetrics, Medical College of Virginia; Civil War veteran; aged 87; died in March, at Los Angeles.

Henry Reed Hopkins, Buffalo; University of Buffalo Department of Medicine, 1867; member of the Medical Society of the State of New York; emeritus professor of hygiene at his alma mater; aged 81; died, March 6, of embolism, myocarditis and arteriosclerosis.

Frederick B. Peabody ⊕ Richmond, Maine; Medical School of Maine, Portland, 1900; aged 50; died, March 23, at St. Barnabas Hospital, Portland, of myocarditis, following an operation for suppurative arthritis of the hip, a complication which followed the mumps.

Julius Rosenstirn, New York; University of Wurzburg, Germany, 1872; formerly on the staff of the Mount Zion Hospital, San Francisco; at one time connected with the George Crocker Special Research Fund of Columbia University; aged 76; died, March 27.

Walter Frank Cimiotti, Union City, N. J.; Columbia University College of Physicians and Surgeons, New York, 1901; served during the World War; aged 48; died, March 28, at the Knickerbocker Hospital, New York, of chronic nephritis and cerebral hemorrhage.

Herbert Othello Darnall, El Paso, Texas; Hahnemann Medical College and Hospital, Chicago, 1902; member of the State Medical Association of Texas; served during the World War; aged 48; died, in March, at the William Beaumont General Hospital.

Frederick Converse Eastman, Lees Summit, Mo.; College of Physicians and Surgeons, Keokuk, 1865; Bellevue Hospital Medical College, New York, 1883; Civil War veteran; aged 83; died, March 21, at Kansas City, Mo., of influenza and myocarditis.

George Henry Cobb ⊕ South Orange, N. J.; Medical Department of Columbia College, New York, 1888; member of the Medical Society of the State of New York; president of the South Orange Board of Health; aged 63; died, April 5, of pneumonia.

John Winthrop Wright ⊕ Bridgeport, Conn.; Medical Department of the University of the City of New York, 1880; formerly on the staffs of the Bridgeport and St. Vincent's hospitals; aged 73; died, February 10, following an operation for gallstones.

Theodore J. Gramm, Philadelphia; Hahnemann Medical College of Philadelphia, 1881; on the staff of the Women's Homeopathic Hospital; one of the founders and on the staff of the Belmont Hospital; aged 65; died, April 9, of angina pectoris.

Judson Albertus Ferree ⊕ Columbus, Ohio; Cleveland-Pulte Medical College, Cleveland, 1901; University of Michigan Homeopathic Medical School, Ann Arbor, 1909; aged 52; died, March 29, at the Mount Carmel Hospital, of carcinoma.

Jesse Kersey Patrick ⊕ West Chester, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1915; aged 37; died in March, at the Chester County Hospital, from the effects of illuminating gas, presumably self-administered.

Mary D. Rushmore, Palmyra, N. J.; Woman's Medical College of the New Infirmary for Women and Children, 1894; for many years surgeon to the New York Infirmary for Women and Children; aged 59; died, February 3.

Fred Bain Weaver, Hyde Park, N. Y.; Albany Medical College, 1898; member of the Medical Society of the State of New York; aged 50; died, March 16, at the Vassar Hospital, Poughkeepsie, of pneumococcus meningitis.

William Redwood Fisher, Swiftwater, Pa.; Medical Department of Columbia College, New York, 1867; formerly on the staffs of the Bellevue Hospital, New York and St. Mary's Hospital, Hoboken, N. J.; aged 82; died, March 28.

Charles W. Packard, Stratford, Conn.; New York Medical College, 1855; member of the New York Pathological Society; Civil War veteran; on the staff of St. Luke's Hospital, New York; aged 93; died, March 27, of myocarditis.

George A. Gilbert, Danbury, Conn.; Medical Department of Columbia College, New York, 1883; formerly on the staff of the Danbury Hospital; for ten years member of the board of education; aged 67; died, March 27.

Carll Casper Method, Elmhurst, Ill.; Northwestern University Medical School, Chicago, 1925; aged 27; died in March, of injuries received when the automobile in which he was driving was struck by a train.

Fred Stroble Westmoreland, Spartanburg, S. C.; Medical College of the State of South Carolina, Charleston, 1904; member of the South Carolina Medical Association; aged 46; died, March 5, at Vienna, Austria.

Charles Edward McClelland ⊕ Columbus, Ohio; Ohio Medical University, Columbus, 1902; served during the World War; aged 47; died, March 27, at Rochester, Minn., following an operation on the spleen.

Llewellyn Powell Durrett, Louisville, Ky.; Louisville Medical College, 1892; member of the Kentucky State Medical Association; aged 58; died in March, at St. Anthony's Hospital, following an operation.

Roger Sherman Tracy, Ballard Vale, Mass.; Medical Department of Columbia University, New York, 1868; formerly member of the New York Department of Health; aged 84; died, March 6.

David Jones Hale, Terre Haute, Ind.; Rush Medical College, Chicago, 1905; member of the Indiana State Medical Society; aged 49; died, January 6, at the Union Hospital, of pernicious anemia.

John Schilling, Fort Wayne, Ind.; St. Louis College of Physicians and Surgeons, 1884; member of the Indiana State Medical Association; aged 62; died, March 20, of sclerosis of the spinal cord.

Carl Henry Breidenbach, Dayton, Ohio; Miami Medical College, Cincinnati, 1898; member of the Ohio State Medical Society; on the staff of the Miami Valley Hospital; aged 58; died, March 5.

George Allen Ross, Capac, Mich.; University of Michigan Medical School, Ann Arbor, 1909; member of the Michigan State Medical Society; aged 42; died in March, of pneumonia.

John M. Wilkins, Martinsville, Ill.; Vanderbilt University Medical Department, Nashville, 1878; Civil War veteran; aged 80; died, March 20, of valvular heart disease.

Alonzo Dexter Blagden, Sycamore, Ill.; Bennett Medical College, Chicago, 1886; member of the Illinois State Medical Society; aged 74; died, April 2, of heart disease.

John Van Reed Lyman ⊕ Eau Claire, Wis.; Rush Medical College, Chicago, 1880; aged 68; died, March 31, at the Wauwatosa (Wis.) Sanitarium, of pneumonia.

Joseph McNeece, Morley, Mich.; Detroit College of Medicine and Surgery, 1889; member of the Michigan State Medical Society; aged 62; died, March 22.

August Henry Madsen, Scenic, Wash.; Rush Medical College, Chicago, 1925; aged 29; died, March 16, at Leavenworth, of pneumonia, following influenza.

William C. A. Leipold, Chicago; Hering Medical College, Chicago, 1896; aged 63; died, April 2, of intestinal obstruction due to peritoneal adhesions.

Pattie Alonzo Moore, Oakton, Ky.; University of Tennessee College of Medicine, Memphis, 1901; aged 55; died, March 8, of carcinoma of the liver.

John Bryce McMurrich, Ste. Anne de Bellevue, Que., Canada; Trinity Medical College, Toronto, Ont., 1896; aged 53; died, Dec. 28, 1925.

Archibald Blyth Stewart, Rosthern, Sask., Canada; University of Manitoba Faculty of Medicine, Winnipeg, Man., 1889; aged 59; died recently.

Andrew Ten Brook, Bloomington, Ill.; Jefferson Medical College of Philadelphia, 1876; aged 72; died, March 30, of cerebral hemorrhage.

Staley N. Chapin, Chicago; Rush Medical College, Chicago, 1885; aged 77; died, March 28, of carcinoma of the tonsil and parotid gland.

Milton P. Tolliver, Elnora, Ind. (licensed, Indiana, 1897); formerly county coroner; aged 77; died, March 23, of cerebral hemorrhage.

Richard Holden Love, Saskatoon, Sask., Canada; McGill University Faculty of Medicine, Montreal, Que., 1899; aged 49; died recently.

John W. Miller, Wayne City, Ill. (licensed, Illinois, 1888); aged 78; died, March 11, at the Deaconess Hospital, St. Louis, of pneumonia.

Allen C. Gregg, Denver; University Medical College of Kansas City, Mo., 1896; aged 52; died, March 10, of pneumonia.

William F. Taylor, Fort Worth, Texas; Missouri Medical College, St. Louis, 1877; aged 77; died in March, of heart disease.

William Grant Bixler, Panama, Neb.; Lincoln Medical College, 1903; aged 61; died, February 14, following a long illness.

Elton Arthur Chloupek, Oak Park, Ill.; College of Physicians and Surgeons, Chicago, 1899; aged 51; died, April 3.

Silas W. Patton, Catlettsburg, Ky. (licensed, Kentucky, 1894); aged 79; died, February 28, of senility.

Ferdinand Fischer, Carlyle, Ill.; Eclectic Medical Institute, Cincinnati, 1879; aged 76; died, March 28.

Correspondence

GLUCOSE AS A FOOD

To the Editor:—I read with much interest the editorial on "Glucose as a Food" (The Journal, Feb. 27, 1926). I was greatly surprised to find that this editorial was cited as one of the reasons before the Interstate and Foreign Commerce Committee of the House of Representatives favoring the approval of the bill already passed by the Senate, permitting the use of glucose as a component of sugar under the general title of sugar, and without notice to the consumer. I notice that your approval of this measure is not because of its repealing some of the most important provisions of the food law, and the legalization of adulteration and misbranding, as it is because of the value of glucose, which you describe as *par excellence* the physiologic sugar.

It is true that the only sugar found in the blood and tissues is glucose. You may be surprised, however, to find that this pending legislation is urged because it is hoped to supply two billion pounds of this sugar to the American consumer by reason of the permission to adulterate ordinary sugar without notice to the consumer. In order to make this amount of sugar, in round numbers, two billion pounds of starch must be extracted from its natural surroundings, converted into glucose *vi et armis*, and given in this form to the American consumer. Starch never exists free in nature. All the starches are parts of food products containing practically all the essential elements of nutrition. Starch by itself builds practically only one tissue; namely, fat. It is entirely deficient in vitamins and minerals, and as a food product, fed in any considerable quantity, would tend to develop diabetes, beriberi, xerophthalmia, scurvy, and many other diet deficiency maladies. It would present to the human stomach two billion additional pounds of prechewed and predigested starch, thus taking away from the natural digestive processes a large part of their functions, and in accordance with the well known principles of physiology, injuring to this extent the ability to digest starches and thus threaten the health and welfare of the whole body of American consumers.

When starch is converted into glucose by the natural processes of digestion, which at the same time are exerted on other necessary food products containing both vitamins and minerals, we have a natural production of glucose in which all the functions of mastication and digestion have received their full exercise.

By the pending measure all of these natural functions are obliterated, with the dangers to health and vitality already enumerated. It is extremely painful to see so excellent and scientific a journal as that of the American Medical Association quoted in support of such an unethical pending legislation.

Harvey W. Wiley, M.D., Washington, D. C.

[Comment.—The point of view of the foremost champion of the "pure food laws" in this country has been presented in full, so that his contentions may be available in his own words to our readers. It might be well also to reread carefully the editorial in question (The Journal, February 27, p. 628). Dr. Wiley does not take exception to the well established chemical and physiologic facts there reviewed. He argues that glucose (corn sugar) is prepared from isolated starch, a product that "never exists free in nature"; so that the resulting artificially produced sugar will be devoid of the vitamins and the minerals that the naturally occurring starch-bearing foods carry along with the carbohydrate. Consequently, one readily infers, the liberal use of pure glucose might lead to an undesirable deprivation of certain food accessories essential to our nutritive well being.

The same argument may be applied, however, with equal cogency against the widespread use of the common table sugar, sucrose—a product supplied everywhere in almost chemically pure form rather than as it occurs in nature. The sugar consumption of the United States now exceeds 100 pounds per capita per annum. Why the use of pure glucose should be singled out as more harmful, from the particular standpoint taken, than is the liberal consumption of the equally pure and isolated sucrose, is not made clear. Dr. Wiley avers that starch is a fat-former; but so are all the common sugars of commerce, to which no specific objection is made on that score. Furthermore, if our correspondent's contentions were carried to their logical conclusion, all purified foodstuffs would come under the same ban, whether they are corn starch, sugars, gelatin, or refined fats such as now enter widely into the American dietary.

Whether the replacement of starchy foods, slower of digestion, by sugars and the consequent "sparing" of the digestive organs with a simultaneous "flooding" of the alimentary tract with predigested foodstuffs is a physiologic detriment may well be argued as our correspondent has ventured. Whether the current use of overrefined and overmilled foods tends to bring about dietary deficiencies which the corresponding consumption of "natural" foods would be less likely to entail is likewise a problem of paramount importance. These questions should, we believe, be argued on their inherent merits and not be confused with the less tenable thesis that, in contrast with the consumption of pure sucrose from sugar cane or sugar beets, the dietary use of glucose is unwarranted. More than this our editorial has not discussed; nor should The Journal be expected to accept responsibility for any unwarranted deductions that may have been made from it.—Ed.]

MASS CANCER INCIDENCE NEAR BAKERIES AND IN OTHER PLACES WHERE RATS ABOUND

To the Editor:—In the Paris letter (The Journal, Sept. 12, 1925, p. 838) there was a report of investigations by Negre in the French Tarn district on mass cancer incidence near bakeries and other places where rats abound. The matter constitutes apparently further corroborative evidence for parallel observations found in the literature. It seems that various worms can be among the cancer-inciting factors, and that rats can be the carriers of these worms and their larvae and the disseminators of their ova. As others may also be interested in the matter, I cite some references: In "Some Notes on Cancer" (*J. Cancer Research* **8**:45 [April] 1924) I mentioned certain cancer districts. L. W. Sambon (The Elucidation of Cancer, *J. Cancer* **2**:37 [Jan.] 1925) showed the coincidence of a high cancer rate, old bakeries, cockroaches and rats. In a second article entitled "Some Notes on Cancer" (*Am. J. M. Sc.* **170**:481 [Oct.] 1925) I described worms, their ova and larvae as cancer-inciting factors.

Willy Meyer, M.D., New York.

HEMORRHAGIC NEPHRITIS

To the Editor:—In The Journal, April 3, in an article by George Baehr entitled "A Benign and Curable Form of Hemorrhagic Nephritis," the author says: "In the English and American literature nothing more than extremely casual references have come to my notice."

Dr. Baehr appears to have missed seeing a paper by Drs. J. P. O'Hare and W. G. Walker in the *Atlantic Medical Journal* (**27**:280 [Feb.] 1924) under the title, "Hemorrhagic Nephritis," in which attention is called to this form of renal lesion. Also in the Oxford Medicine, Chapter XI, by myself and Dr. O'Hare this is discussed on pages 721 to 739. Here attention is called to the frequency of the hemorrhagic type of nephritis, forty-seven cases having been seen by us at the Peter Bent Brigham Hospital in ten years, and it having constituted 25 per cent of the nephritic cases observed among children by L. W. Hill (The Journal, Dec. 6, 1919, p. 1747; *Am. J. Dis. Child.* **17**:270 [April] 1919).

In Oxford Medicine there is not a subgrouping of these cases into benign and progressive forms, though the recoverability is indicated under "Prognosis," where appears the statement, "Numerous cases get well though the progress to recovery may be slow. Most are long drawn out and many gradually progress downward as a chronic nephritis without edema."

I agree with all of Dr. Baehr's statements and feel that the hemorrhagic group is a very important type of nephritis. My own experience, however, has not yielded the striking improvement following tonsillectomy. Following tonsillectomy usually I have observed a prolonged continuation of the hematuria, sometimes with eventual disappearance, at other times with progression into a chronic form of nephritis eventually fatal.

Henry A. Christian, M.D., Boston.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF ECZEMA

To the Editor:—I would be pleased to know something of the latest advances made in the treatment of eczema. Is there any known treatment that is really worth while, or that shows results—any kind of treatment, medication, light therapy, serum treatment, or any other kind in your knowledge? Can you suggest anything or refer me to any articles of promise?

Verner I. Baugh, M.D., Girard, Texas.

Answer.—The greatest recent advance in the solution of the eczema problem has been the recognition and separation from eczema of eczematoid ringworm. Many cases formerly classed as eczema are now recognized and treated successfully as ringworm (White, C. J., and Greenwood, A. M.: Epidermophytosis, *Wisconsin M. J.* **24**:1 [June] 1925; *Illinois M. J.* **48**:269 [Oct.] 1925).

A second, constantly increasing group separated from eczema, though very closely related to it, is that of dermatitis from external irritants. Careful detective work will sometimes discover the cause of a dermatitis in some substance with which the patient comes into frequent contact. Hair dyes, dyed furs, house plants, lacquered wooden articles, and colored newspaper supplements are a few of these. Sensitization to external and internal irritants must be considered in these cases. Skin tests with proteins give help in some cases, though often disappointing and sometimes actually misleading (O'Keefe, E. S.: Protein Sensitivity in Children with Negative Cutaneous Reactions).

Focal infection must be considered as a possible cause (Vischer, J. W.: The Rôle of Focal Infection in the Etiology of Eczema, *Am. J. M. Sc.* **170**:723 [Nov.] 1925).

Faulty metabolism and inefficient excretion may be to blame (Schamberg, J. F., and Brown, H.: Relationship of Excess of Uric Acid in the Blood to Eczema and Allied Dermatoses, *Arch. Int. Med.* **32**:203 [Aug.] 1923; Study of Blood Uric Acid in Diseases of Skin, *Arch. Dermat. & Syph.* **8**:801 [Dec.] 1923. McGlasson, I. L.: Hyperglycemia as an Etiologic Factor in Certain Dermatoses, *ibid.* **8**:665 [Nov.] 1923. Ayres, Samuel, Jr.: Glucose Tolerance Reactions in Eczema, *ibid.* **11**:623 [May] 1925).

Endocrine disturbances must always be considered. The roentgen ray, usually in a dosage of one-fourth skin unit once a week, gives at least temporary relief in most cases. Ultraviolet rays give relief in some cases, though they must be used with caution in acute exacerbations and in hyperglycemia.

Mild foreign protein injections may be helpful, acting possibly by desensitizing the patient. Autoserum injections, either intramuscular or intravenous, are probably of this nature. Milk injections intramuscularly, or bacterial vaccines used in the same way, may help. Severe reactions should be avoided.

The use of crude coal tar ointment has been of great value in the treatment of adult as well as infantile eczema (White,

C. J.: Infantile Eczema and Examination of the Stools, *Arch. Dermat. & Syph.* **7**:50 [Jan.] 1923).

The nervous system assumes an important rôle in the causation of many cases. Sedatives, usually bromides, are often valuable.

IMMUNIZING AGAINST EGG

To the Editor:—I will appreciate any advice you can give me concerning the method and technic of immunizing a patient against egg. My patient is so hypersensitive to both egg white and yolk that a minute quantity, and often just the odor of cooking eggs, will give her asthma.

Last April I procured a freshly prepared quantity of whole egg antigen in solutions of from 1: 500 to 1: 10,000. I first tested her out for beginning dosage, getting a reaction (local) to everything above 1: 120,000, and began with 0.15 cc. of that dilution. Injections were given twice a week, increasing from 0.15 to 0.20 cc. each injection with no general reaction and only slight local reaction, until 0.60 cc. of a 1: 80,000 dilution was reached, when the arm showed a marked local reaction, being swollen and red. However, by repeating this dose twice I was able to get past it and continued to progress without difficulty until almost through the 1: 5,000 dilution, when the local reactions became severe. In spite of some local reaction with each injection, I worked up to the 1: 1,000 strength, when the patient had a sharp attack of asthma requiring epinephrine. I then reduced the dose but kept the same dilution, each time, however, getting a varying amount of local and general reaction. After this I suspended treatment two weeks, resuming with 1: 10,000 dilution, but with each injection there was a marked local reaction. Concluding now that I was getting nowhere, I gave up the attempt.

My experience suggested to me that I was raising the immunity for a time and then she lost it and became as sensitive as ever. Wherein was the technic at fault?

Wilbur T. Little, M.D., Canon City, Colo.

Answer.—If it is feasible, eggs should be excluded completely from the patient's diet. If this is too great a hardship in the management of the household, the following mode of desensitization might be tried, but during the period of desensitization no eggs whatever should be eaten, not even food that contains even a trace of egg white or egg yolk:

One drop of egg white, taken with a medicine dropper, is mixed with 1 quart of water and well shaken. Of this first dilution, 20 drops is shaken well with another quart of water.

Of this second dilution, one teaspoonful is taken daily by mouth for one week. In the second week the dose should be increased every day one teaspoonful, so that the patient takes on the eighth day two teaspoonfuls, on the ninth three, on the tenth, four, and so on. In the third week half a tumbler of the second dilution should be taken daily by mouth; in the fourth, a whole tumbler daily.

In the fifth week, 20 drops of the first dilution (1 drop of egg white and 1 quart of water) should be placed in a glass of water and taken daily by mouth, and this increased by 20 drops every week and taken daily until the patient reaches one teaspoonful or 1 fluidrachm; after that she should continue to increase every week 1 fluidrachm, taking a dose daily, to 2, 3, 4, 5, 6, 7 fluidrachm, etc. In the twelfth week, 3 ounces; in the fourteenth, 6 ounces.

If the patient is so sensitive that she cannot tolerate even the dilutions suggested, the same dilutions should be made and the desensitization attempted with them by the rectal route.

GRAM STAIN

To the Editor:—Is there some method for gram staining in which a stable stock solution of gentian violet may be used?

M. B. Rosenblüth, M.D., New York.

Answer.—The usual methods of preparing the aniline-gentian violet stain for use in the Gram method of staining bacteria require freshly prepared mixtures, owing to the instability of the stain so made. Sterling has introduced, however, a formula for such a stain that has proved very reliable and satisfactory and has the advantage that it will remain permanent for three or four months. The formula is: gentian violet, 5 Gm.; alcohol, 95 per cent, 10 cc.; aniline, 2 cc.; distilled water, 88 cc. The aniline and the alcohol are thoroughly mixed by shaking, and the water is added. Now the gentian violet is ground in a mortar, and the aniline solution added slowly until the stain is practically dissolved. The solution is filtered into a staining bottle.

Instead of using this stain, one may substitute with satisfactory results a 0.5 per cent aqueous solution of methyl violet 6 B, which is very permanent and has been advocated by many workers for use in the Gram method of staining. When the latter solution is used, it is advisable to use a somewhat stronger iodine solution in the second step of the staining process than is used with the gentian violet solution. The formula for this iodine solution is: iodine, 1 Gm.; potassium iodide, 2 Gm.; distilled water, 100 cc.

SENSITIZED BACTERIAL VACCINES

To the Editor:—May I ask your opinion regarding the relative value of "sensitized bacterial vaccines" as compared with the ordinary type? I am especially interested in the so-called triple vaccine against typhoid infections. In a series of three vaccinations with these bacterins reaching back through the last ten years, I have experienced an increasingly severe reaction from vaccine. On the last occasion, I was almost disabled for more than three weeks, and I have seen somewhat similar reactions in some of my patients. It has been suggested to me that the "Sero-bacterins" made by a well known house would markedly diminish the disturbing reaction. I have usually employed United States government vaccine in work with members of the R. O. T. C. and on my own person, and otherwise, more commonly Parke, Davis & Company's. A bacteriologic friend of mine has suggested that the difficulty might be lessened by the elimination of the paratyphoid vaccine, but one does not like to forego the protection against this infection. I should be very grateful for your opinion on this matter and for reference to any literature which you might suggest.

Arthur V. Stoughton, M.D., Claremont, Calif.

Answer.—There is no evidence that "sensitized bacterial vaccines" have greater protective power than simple vaccines. Sensitized vaccines, though claimed to have certain advantages (New and Nonofficial Remedies, 1925, p. 367), are objectionable because they may sensitize the injected person to the proteins in the animal serum with which the bacteria of the vaccine have been treated. With the sensitized vaccine there is injected into the body additional and undesirable foreign protein. Three series of vaccinations with triple typhoid vaccine in ten years is going further than seems to be necessary. Obviously, the recipient is in an allergic or sensitive state and further injections of any kind of typhoid vaccine are not at all indicated. Well vaccinated persons appear to be protected for an indefinite time; in the U. S. Army, two courses of injections are given at an interval of three years. This at present may be regarded as our best standard. Unfortunately, there is not available a simple test, like the Schick test in the case of diphtheria or the Dick test for scarlet fever, that will tell whether a person is susceptible or not to typhoid infection. The problems of antityphoid vaccination have been discussed recently in an able and rational manner by H. J. Nichols and Parker Hitchens (The Reactions of Typhoid Vaccination, *J. Lab. & Clin. Med.* **11**:517, 1926).

PREVENTION OF RENAL CALCULUS

To the Editor:—I would appreciate it greatly if you will outline for me the proper diet and other preventive measures to be taken in order to avoid the recurrence of renal calculus (calcium oxalate). Recently a calcium oxalate stone was removed from my ureter. Please do not publish my name.

M.D., New York.

Answer.—One of the most important things in the prevention of recurrence of stone is dilution. The patient should be instructed to drink a large amount of water so as to keep the specific gravity of the urine below 1.005. Two factors that are supposed to play an important part in the recurrence of oxalate stone are an excessive nitrogenous intake coupled with an excretory sluggishness.

It would be advisable to carry on with a low nitrogenous diet. Alcohol, tea, coffee and tobacco should be used sparingly and the bowels kept open. The patient should of course take a certain amount of exercise—outdoors, preferably—that will make him perspire. Repeated roentgen-ray examination should be made from time to time so that if stone does recur it will be recognized early, at which time it can be treated by dilating the ureter with bougies and injecting oil to aid the stone in its passage down the ureter.

Should there be stasis in the upper urinary tract, such as hydro-ureter or hydronephrosis due to stricture of the ureter, this should be treated with dilation.

PREGNANCY FOLLOWING THYROIDECTOMY

To the Editor:—1. What effect will pregnancy have on a patient who has suffered from a toxic goiter, which was operated on about four years ago and the patient having been in fair health since? With the first pregnancy there was some disturbance with the thyroid, and a severe toxic thyroid developed following the second pregnancy, with exophthalmos, fast pulse, enlarged gland, and frequent bowel movements. 2. Is it generally taught that primiparas usually go into labor two or three weeks before the calculated time? Kindly omit my name.

M.D., South Dakota.

Answer.—1. If the patient's heart has been affected, she should be treated like other women who have heart trouble. If the heart is in good condition, pregnancy will most likely have no ill effects on the patient, though the baby may be influenced unfavorably. When a pregnant woman has a diminished output of thyroid secretion because of congenital deficiency, operation or other cause, the baby frequently is born with an enlarged thyroid. This is most likely a compensatory hypertrophy to make up for the maternal deficiency. In some instances the thyroid enlargement in the new-born persists for a long time and is troublesome. To avoid this condition in the new-born, the mother during pregnancy should receive compound solution of iodine, 5 drops, twice a day for one week. After an interval of a few weeks, the solution should again be taken for one week.

2. While primiparas often go into labor a few weeks before term, it is not the rule for this to occur. Old primiparas have a tendency to go beyond term.

TREATMENT OF PINWORMS

To the Editor:—Please advise if there is any effective way of ridding a child or an adult of pinworms. The following has already been used and found inadequate: santonin and calomel, one-half grain of each daily for four days; twenty-four hours' fast; administration of oil of chenopodium, 8 drops, with 1 ounce of castor oil together; nightly enemas of infusion of quassia, and anointing of anus with ointment of ammoniated mercury. The cooperation of the patient has been excellent, but the worms are still present.

M. W. HOLLINGSWORTH, M.D., Santa Ana, Calif.

ANSWER.—In obstinate cases, the attack should be carried on simultaneously from above and below. One santonin tablet (0.03 Gm.) three times daily for three days should be combined with daily rectal irrigations of vermicidal solutions. It is stated that 1 per cent soap solution kills the pregnant females. Vinegar (from 30 to 100 per thousand) is also recommended. After two weeks the process is repeated. During this entire time most painstaking prophylaxis must be kept up, especially scrupulous cleanliness of the anal region and the wearing of closed drawers day and night. Over night the following ointment may with advantage be applied to the anus:

		Gm.
℞	Ethyl aminobenzoate (benzocaine)	2
	Salicylic acid	0.5
	Hydrous wool fat	20

The hands must be kept carefully clean, being washed thoroughly and long with soap and water after dressing and after each bowel treatment. It must be admitted that, in spite of most careful treatment, complete eradication is at times impossible; but the infestation may be kept sufficiently low to maintain the patient symptom-free.

TOXIN-ANTITOXIN AND ASTHMA

To the Editor:—Please advise me as to the risk, if any, in giving toxin-antitoxin to a child who has known asthmatic attacks.

J. G. LOGUE, M.D., Williamsport, Pa.

ANSWER.—If the asthmatic attacks are precipitated by coming in contact with horses or emanations from horses, it would seem possible that alarming symptoms might develop after toxin-antitoxin injection because of the presence of horse proteins in the antitoxic serum used in making the toxin-antitoxin mixture. Recently Bauer and Wilmer (Toxin-Antitoxin, Hypersensitivity to Its Protein Content, THE JOURNAL, March 27, p. 942) report, however, that in their experience, which seems to be large, children sensitive to horse protein did not react to the toxin-antitoxin mixture. But in any case, injection of foreign protein in asthmatic persons ought to be done with especial care and only when indicated clearly.

DETERMINATION OF MENTAL DEVELOPMENT

To the Editor:—I have a backward baby under treatment who is showing a tendency toward mongolism, and whose parents wish to check up his mental development at intervals. Do you know of any set of test questions that would be of service under the circumstances, and, if so, where I could procure copies?

ERLE DRAPER, M.D., Bedford, Quebec.

ANSWER.—The tests in most common use are those of the Stanford revision of the Binet scale. The materials for these tests can be obtained from the Houghton, Mifflin Company, which has offices in Boston, New York and Chicago.

DECREASING APPETITE

To the Editor:—Is there any drug, or combination of drugs, which taken by mouth will decrease the appetite without deleterious effect on the health? Please omit my name.

M.D., Ohio.

ANSWER.—Probably not.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD OF OTOLARYNGOLOGY.

CALIFORNIA: San Francisco, April 27. CANADA: Montreal, June 1. Sec., Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

ARKANSAS: Little Rock, May 11-12. Sec., Dr. J. W. Walker, Fayetteville. Homeo. Board, Little Rock, May 11. Sec., Dr. A. A. Pringle, Eureka Springs. Eclectic Board, Little Rock, May 11. Sec., Dr. Claude E. Laws, Fort Smith.

DELAWARE: Wilmington, Regular Board and Homeo. Board, June 15-17. Pres., Dr. H. W. Briggs, Wilmington.

FLORIDA: St. Petersburg, June 14-15. Sec., Dr. H. M. Rowlett, Box 603, Tampa.

GEORGIA: Atlanta, June 9-11; Augusta, June 1-3. Sec., Dr. C. T. Nolan, Marietta, Ga.

KANSAS: Kansas City, June 15. Sec., Dr. Albert S. Ross, Sabetha.

MARYLAND: Baltimore, Reg. Bd., June 15-18. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Bd., June 15-16. Sec., Dr. Joseph S. Garrison, Old Orchard Rd., Ten Hills, Baltimore.

MICHIGAN: Ann Arbor, June 8-10. Detroit, June 14-16. Sec., Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

NATIONAL BOARD OF MEDICAL EXAMINERS: Part I, June 21-23; Part II, June 22-23. All applications should be made on or before May 15. Sec., Dr. J. S. Rodman, 1600 Walnut Street, Philadelphia.

NEBRASKA: Omaha, June 8-10. Director, Bur. of Exam. Bds., Mrs. Clark Perkins, Lincoln.

NEVADA: Carson City, May 3. Sec., Dr. Simon L. Lee, Carson City.

NEW JERSEY: Trenton, June 15-16. Sec., Dr. Alexander MacAlister, Room 1101, Trenton Trust Bldg., Trenton.

OHIO: Columbus, June 8-11. Sec., Dr. H. M. Platter, Columbus.

OKLAHOMA: Oklahoma City, June 15-16. Sec., Dr. J. M. Byrum, Shawnee.

TEXAS: Austin, June 15-17. Sec., Dr. T. J. Crowe, 918 Mercantile Bank Bldg., Dallas.

VIRGINIA: Richmond, June 16-19. Sec., Dr. J. M. Preston, 720 Shenandoah Life Bldg., Roanoke.

Utah February Reciprocity Report

Mr. J. T. Hammond, director of the Department of Registration of Utah, reports that 8 candidates were licensed by reciprocity at a meeting held Feb. 5, 1926. The following colleges were represented:

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Drake University College of Medicine	(1910)	Iowa
University of Maryland School of Medicine	(1924)	Penna.
University of Nebraska College of Medicine	(1925, 3)	Nebraska
Ohio State University College of Homeo. Medicine	(1921)	Ohio
Jefferson Medical College of Philadelphia	(1908)	Penna.
Wisconsin College of Physicians and Surgeons	(1905)	Wisconsin

Washington January Examination

Mr. William Melville, director of the Department of Licenses of Washington, reports the oral and written examination held at Olympia, Jan. 11-13, 1926. The examination covered 13 subjects and included 130 questions. An average of 75 per cent was required to pass. Of the 6 candidates examined, 5 passed and 1 failed. Thirty-two candidates were licensed by reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent
University of Virginia Department of Medicine	(1924)	80
University of Alberta Faculty of Medicine	(1925)	83.5
University of Manitoba Faculty of Medicine	(1914)	77
McGill University Faculty of Medicine	(1913)	76
University of Kief, Russia	(1893)*	75

College FAILED	Year Grad.	Per Cent
Washington University School of Medicine	(1908)	†

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Harvey Medical College, Chicago	(1903)	Illinois
Northwestern University Medical School	(1906) (1912) (1925)	Montana Utah Illinois
Rush Medical College	(1916) (1925)	Illinois Illinois, Minnesota
State University of Iowa College of Medicine	(1904)	Iowa
Louisville Medical College	(1898)	Illinois
University of Louisville School of Medicine	(1911) (1914)	Texas Kentucky
Harvard University	(1894) (1919)	Illinois Minnesota
University of Michigan Med. School	(1905) (1917)	Indiana New York
University of Minnesota Medical School	(1916), (1917), (1921), (1925),‡ (1925)	Minnesota
St. Louis University School of Medicine	(1920)	Iowa
Washington University School of Medicine	(1923)	California
John A. Creighton Medical College	(1913)	Nebraska
Medical College of Ohio	(1897)	Montana
Omaha Medical College	(1896)	Monta

[illegible]	New York
[illegible]	Ohio
[illegible]	Oregon
[illegible]	Idaho
[illegible]	Tennessee
[illegible]	N. Dakota

* Verification of graduation in process.

† No grade given.

‡ This candidate has completed his medical course and will receive his M.D. degree on completion of a year's internship in a hospital.

Book Notices

Life and Evolution. An Introduction to General Biology. By S. J. Holmes, Ph.D., Professor of Zoology in the University of California. Cloth. Price, $3.50. Pp. 449, with 227 illustrations. New York: Harcourt, Brace & Co., 1926.

The principal title of this new book by a prolific writer is considerably less indicative of its contents than is the subtitle. If one bought the book with the idea of getting a new statement about the much debated theory of evolution one would be disappointed, for only the last third of the book deals with evolution, and the treatment is unusually orthodox. The main part of the book is devoted to an exposition of the principles of biology, mainly those usually brought out in textbooks of general zoology. Dr. Holmes has followed traditional lines so far as content is concerned, but has ventured to modify the manner of presentation in some respects. In order to make the book more readable for the casual reader, he has discarded most of the tried and proved pedagogic devices employed by textbook writers. Thus, the chapters read straight ahead without topical subtitles or paragraph heads. The use of differentiated type for emphasis or to aid in making clear the organization is also dispensed with. What the book gains for the general reader, if anything is really gained, is lost for the student. The book differs little in content from standard textbooks on general zoology. To be sure, there is a chapter of sixteen pages on the green plant, but the rest of the treatment is strongly zoological. It will therefore hardly satisfy those instructors who prefer a course about equally divided between botany and zoology. The literary style is facile and interesting enough to make it good reading for one who is intent on getting an orthodox statement about the prevalent ideas and facts of modern biology.

Microbe Hunters. By Paul de Kruif. Cloth. Price, $3.50. Pp. 363, with illustrations. New York: Harcourt, Brace & Co., 1926.

It is a fascinating story: the discovery of microbes, how they grow, what diseases they cause in man and animals, and finally the means of protecting mankind against them. De Kruif has told, in highly dramatic form, the lives of the principal characters in the story, from Leeuwenhoek, who first saw microbes through the lenses of his own making, to Paul Ehrlich, discoverer of the "magic bullet" which could destroy the spirochete of syphilis. The curiosity that drove these men to endless searching for the causes of disease in spite of all discouragement, their adventures, failures and successes, are all vividly portrayed. In many places the tale of their adventures reads like a romance. Indeed, few romances can offer more exciting material than the search of Bruce for the cause of trypanosomiasis and the final tracking down of the tsetse fly, or Walter Reed's discovery of the transmission of yellow fever by mosquitoes. The discoverers, as they appear in these pages, are far from the perfect and rather priggish members of the human race that they are sometimes represented to be. De Kruif writes as though he knew each one intimately, were in his confidence, and had special insight into his actions. The variety of character is most interesting. Pasteur's truly brilliant inspirations, "shooting out like a display of village fireworks going off bewilderingly by accident," sometimes indeed overshooting the mark and given to the world prematurely, stand in sharp contrast to Koch's colder and more precise methods. Then we are told of Metchnikoff's extraordinary career, his sudden jumps to unheard-of conclusions, his alternating attempts to commit suicide and to find the means of prolonging life indefinitely. The jealousies and disputes that arose among them, their undignified wranglings, as when the French surgeon Guérin rose from his seat and "aimed a wallop" at Pasteur, show them to have suffered from the common defects of ordinary mankind. Pasteur and Koch, in their excessive patriotism, denounced each other's discoveries, and later Ross and Grassi engaged in a violent quarrel over the priority in discovering the mosquito that transmits malaria. Unfortunately, doubtless in the effort to present the material in a vivid and dramatic manner, the style has taken on an exaggerated quality which is annoying. "Devilish," "infernal" and "hellish" are the adjectives frequently used, and one gets the impression that most of the hunters were insane, or at least half mad at some time in their careers. We hear of Walter Reed that "never was there a good man who thought of more hellish and dastardly tests." The slangy expressions also seem out of place, such as a demonstration by Koch that was a "knockout" before various "bigwigs," and, concerning some work of Roux, "scientific searchers . . . have held their noses at such an experiment." These give the book somewhat the quality of the best seller in fiction. However, the material throughout is extremely interesting, and will prove so to scientists and to others alike. The lives of the discoverers are an inspiration to other workers, and it is pleasant to find them so very human, and "yet not untouched with a halo of divine romance."

Lehrbuch der Lokalanästhesie des Ohres und der oberen Luft- und Speisewege. Von Dr. Caesar Hirsch, Chefarzt der Abteilung für Hals-, Nasen und Ohrenkranke des Marienhospitals in Stuttgart. Mit einem Vorwort von Professor Dr. O. Voss, Direktor der Universitätsohrenklinik in Frankfurt a. M. Paper. Pp. 293, with 104 illustrations. Stuttgart: Ferdinand Enke, 1925.

Beginning with a discussion along general lines on the subject of pain, local anesthesia, and the description of various drugs used in producing the anesthesia, the author takes up the various methods and the production of local anesthesia. He at first describes the so-called superficial anesthesia by means of local application to the skin or mucous membrane. Then the matter of the use of anesthesia by injection is described, together with the instruments. The second section of the book refers to operations on the scalp, ear, face and nose, and describes them in detail. This is followed by a chapter concerning operations on the mouth, pharynx and neck. This work details precisely the methods of producing local anesthesia in the parts under discussion, and there are excellent illustrations. A bibliography is appended to this readable and instructive work.

A Textbook of Pathology, General and Special. For the Use of Students and Practitioners. By J. Martin Beattie, M.A., M.D., L.R.C.P., Professor of Bacteriology, University of Liverpool, and W. E. Carnegie Dickson, M.D., B.Sc., F.R.C.P., Pathologist to the West End Hospital for Nervous Diseases, London. Third edition. Cloth. Price, $11. Pp. 1103, with 516 illustrations. St. Louis: C. V. Mosby Company, 1925.

Originally, the two parts of this work, "General Pathology" and "Special Pathology," were published as separate volumes. The present edition may be procured in two volumes, as before, or combined in one. The authors state in the preface that the second edition was long overdue, largely because of their participation in the World War; and that in this edition minor alterations and additions have been made to bring the material up to date. The two volumes of the first edition were separately reviewed in The Journal in 1909 and 1910. At that time, the review of the section on general pathology was not entirely favorable. The criticism was made that some important subjects were omitted altogether and that other subjects were treated in so brief a manner as not to satisfy an ardent student. The review of the section on special pathology was distinctly unfavorable, and on the same grounds. Apparently the reviewers, entirely within their rights, kept the previous editions, as they are not at hand for comparison. In the present edition, some of the omissions specifically mentioned in the previous reviews are supplied; not all of them. The authors seem to have had very clearly in mind the sort of work they intended originally to produce and have persisted in their original intention. Certain subjects for which the student would have small use are treated superficially. Foundational processes, such as inflammation and repair, are treated at length. In the fifteen years since the first edition was published, medical education, at least in America, has changed greatly. The present-day American student, struggling to keep his poise in the welter of our curriculums, will find in this Edinburgh book a coherent presentation of the second most difficult subject with which he has to make acquaintance. He can link up this material with the clinical medicine and surgery of his succeeding years in school and in practice. The authors apparently have decided that controversial and discursive material can wait until the student has the background to assimilate it. Admirable illustrations throughout the text help to establish such a background.

Abhandlungen aus der Neurologie, Psychiatrie, Psychologie und ihren Grenzgebieten. Herausgegeben von K. Bonhoeffer. Heft 34. Der heutige Stand der Behandlung der progressiven Paralyse. Von Dr. Ladislaus Benedek, o. ö. Universitätsprofessor, Vorstand der neurologischen und psychiatrischen Klinik der Stefan Tisza-Universität in Debreczen (Ungarn). Paper. Price, 15 marks. Pp. 219, with 25 illustrations. Berlin: S. Karger, 1926.

The author first gives as background a general discussion of the clinical and histologic evidences for the possible curability of general paralysis. He takes up the Staussler Jakob theory that general paralysis histologically is usually a general nonspecific reaction to the spirochete or its toxic products, but that in certain cases evidences of a specific and beneficial tissue reaction in the form of miliary gummas are present. The author fails to consider Spielmeyer's probably correct interpretation of the supposed gummas as local accentuations of the general inflammatory process. The etiology is considered from all aspects. There is a short discussion of the relation of the spirochetes to the brain changes. All the existent theories as to the pathogenesis of general paralysis are given. Sixty-three full case reports show the effects of the immune serum treatment, which is the use of the serum of horses immunized over a period of two months with extracts of paretic brains. Only 9.5 per cent of patients thus treated showed improvement. The treatment by fever production through injection of tuberculin, vaccines, nucleic acid and milk is discussed, but favorable results are not reported. The malaria treatment is taken up at length and the detailed technic given. The author's series of cases showed improvement in 35 per cent, which is slightly better than that reported from other clinics. Arsenical therapy, including the Swift-Ellis and the Gennerich method, are described. Tryparsamide is omitted probably because it is not obtainable in Hungary.

The Pathology of Tumours. By E. H. Kettle, M.D., B.S., Professor of Pathology and Bacteriology, Welsh National School of Medicine, Cardiff. Second edition. Cloth. Price, $5. Pp. 285, with 159 illustrations. New York: Paul B. Hoeber, Inc., 1925.

Amplified portions dealing with etiology, experimental research, carcinoma and endothelioma and thirty-three new illustrations are in this edition. The ending "ata" has been retained for names of tumors, notwithstanding the increasingly prevalent use of English plurals. In the plain, but adequate, illustrations, great care has been displayed. The "special pathology" or distribution of tumors in special regions, occupying the final fourth of the work is very abbreviated in spots, merely a list or syllabus of what may happen. The work has already met approval as a manual.

Lead Poisoning. By Joseph C. Aub, Lawrence T. Fairhall, A. S. Minot, and Paul Reznikoff. With a chapter on the prevalence of industrial lead poisoning in the United States by Alice Hamilton, from the Department of Physiology, Harvard School of Public Health, and the Medical Clinic, Massachusetts General Hospital. Cloth. Price, $4. Pp. 265, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

This is the seventh of the "Medicine Monographs" published by this firm, and that it is written and published here is gratifying because it is the type of monograph we have been accustomed to finding in German or French. Except for its legal bearings, all phases of lead poisoning are thoroughly considered. A great deal that is new from work by the authors is included, and of such portions those dealing with the physical and physiologic chemistry of plumbism are preeminent. That only 500 of the 2,200 references in their files were used gives some index of the care employed and the scope of the work.

Abdominal and Pelvic Surgery for Practitioners. By Rutherford Morison, Hon. M.A. and D.C.L., Hon. LL.D., M.B., Consulting Surgeon, Royal Victoria Infirmary and Dental Hospital, Newcastle-on-Tyne. Cloth. Price, $2.75. Pp. 212, with 9 illustrations. New York: Oxford University Press, 1925.

This is not intended as a complete treatise, but the clarity of thought and simplicity of style of the author make it profitable and enjoyable reading. Abdominal emergencies, subacute abdominal diseases and chronic abdominal and pelvic diseases are the subjects covered. The work ends with a brief chapter on postoperative complications and treatment. The bulk of material covered represents diagnosis; little attention is devoted to treatment except in the numerous case reports cited. The book is worthy of a place in the library of every practitioner.

Handbuch der experimentellen Therapie Serum- und Chemotherapie. Ein Handbuch für die arztliche Praxis und Klinik. Herausgegeben von A. Wolff-Eisner. Second edition. Paper. Price, 35 marks Pp. 790, with 69 illustrations. Munich: J. F. Lehmanns, 1926.

So far as important recent American work is concerned, this book presents "Nichts neues." The scarlet fever work is not discussed at all. The book cannot be recommended as giving an adequate idea of the present state of knowledge in its field.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

Die Chirurgie. Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner, Direktor der chirurgischen Klinik der Universität Königsberg i Pr., und Prof. Dr. O. Nordmann, Dirigierender Arzt am Auguste-Viktoria-Krankenhaus, Berlin. Lieferung 7. Nahtchirurgie. Von Priv.-Doz. Dr. E. Gohrbandt. Die allgemeine Lehre von den eitrigen Infektionen (einschliesslich septische Allgemeininfektion). Von Priv.-Doz. Dr. A. Buzello. Die allgemeine Lehre von den spezifischen Infektionen. Von Prof. Dr. R. Eden und Priv.-Doz. Dr. P. Drevermann. Paper. Price, 17 marks. Pp. 936, with illustrations. Berlin: Urban & Schwarzenberg, 1926.

More parts of German system of surgery, dealing this time with surgery of specific infections.

Die Biologie der Person. Ein Handbuch der allgemeinen und speziellen Konstitutionslehre. Herausgegeben von Prof. Dr. Th. Brugsch und Prof. Dr. F. H. Lewy. Lieferung I. Einführung in die Konstitutionslehre, ihre Entwicklung zur Personallehre. Von Prof. Dr. Th. Burgsh. Das Problem der Individualität. Von Dr. E. Straus. Die rechnerische Auswertung statistischer Beobachtungsergebnisse (Einführung in die Kollektivmasslehre). Von Dr. H. Salinger. Bedeutung des Normbegriffes in der Personallehre. Von Prof. Dr. I. Kaup. Allgemeine Vererbungslehre. Von Prof. Dr. W. Johannsen. Paper. Price, 15 marks. Pp. 322, with 22 illustrations. Berlin: Urban & Schwarzenberg, 1926.

First part of new system of human biology.

Die Bluttransfusion. Von Privatdozent Dr. B. Breitner, I. Assistent der I. chirurgischen Universitäts-Klinik in Wien. Paper. Price, 6.90 marks. Pp. 113, with 24 illustrations. Vienna: Julius Springer, 1926.

Monograph with bibliography. Literary study is incomplete, and conclusions are not in accord with best modern American practice.

Pleomorphism in Bacterial Protoplasm. A Study in Psittacosis. By Andrew Todd McClintock, M.D. Archives of the Andrew Todd McClintock Memorial Foundation for the study of diseases of the alimentary canal. Volume I. Cloth. Pp. 240, with illustrations. Privately printed. New York, 1925.

Posthumous manuscript of young investigator on timely topic of bacterial mutations.

Allgemeine und spezielle Chirurgie des Kopfes einschliesslich Operationslehre unter besonderer Berücksichtigung des Gesichts, der Kiefer und der Mundöhle. Ein Lehrbuch. Von Eduard Borchers, Professor und Oberarzt der chirurgischen Universitätsklinik Tübingen. Paper. Price, 54 marks. Pp. 382, with 326 illustrations. Berlin: Julius Springer, 1926.

Beautifully printed text on special surgery of the head.

A Further Report on Cancer of the Breast. With Special Reference to Its Associated Antecedent Conditions By Janet E Lane-Claypon, M D, D Sc. Reports on Public Health and Medical Subjects No 32. Price, 3s net Pp. 189. London: His Majesty's Stationery Office, 1926.

Shows that cancer is more frequent in breasts of unmarried women and in those that have nursed insufficiently or too much; also that large majority are diagnosed too late for efficient surgery.

Handbuch der gesamten Augenheilkunde. Von Th. Axenfeld und A Elschnig Lieferung 488 490 I. Teil, I. Band, 2 Abt, Kapital III. Mikroskopische Anatomie der Regenbogenhaut Von M. Wolfrum Paper. Price, 16 50 marks. Pp 218, with 57 illustrations. Berlin: Julius Springer, 1926

New part on histology of the iris, from well established German system of ophthalmology.

Contribution à l'étude des paraplégies pottiques. Essai sur l'evolution et le pronostic, basé sur 40 observations personnelles Par Mme le Dr. Sorrel Dejerine Preface du Dr. Andre Thomas Paper Price, 40 francs. Pp 401, with 98 illustrations. Paris Masson & Cie, 1926

Monographic consideration, surveying literature and discussing forty cases.

Thérapeutique chirurgicale Par P Lecene, Professeur à la Faculte de médecine de Paris, et R. Leriche, Professeur a la Faculté de medecine de Strasbourg Tome III Abdomen et organes génito-urinaires. Par P. Lecene. Cloth Price, 50 francs. Pp. 645. Paris: Masson & Cie, 1926

French textbook of surgery, without a picture.

L Exploration fonctionnelle du foie et l'insuffisance hépatique. Par Drs Noel Fiessinger et Henry Walter Paper Price, 30 francs. Pp 387, with illustrations Paris Masson & Cie, 1925.

Unusually well presented French monograph on liver function tests

Rontgenbehandlung innerer Krankheiten. Von Prof. Dr. W. Parrisius, Privatdozent an der Med Univ Klinik, Tubingen. Paper. Price, 15 marks Pp 227, with 54 illustrations Leipsic: S Hirzel, 1926.

Practical consideration of roentgen-ray therapy.

Year Book of Pharmacy Comprising official information respecting the Pharmaceutical Society of Great Britain Scientific Abstracts relating to pharmacy, materia medica, and chemistry, covering the period October, 1924, to October, 1925, with the transactions of the British Pharmaceutical Conference at its 62nd annual meeting July, 1925 London, 1925

Health Heroes: Edward Livingston Trudeau. By Grace T. Hallock and C E Turner, Associate Professor of Biology and Public Health, Massachusetts Institute of Technology Paper Pp 24, with illustrations New York Metropolitan Life Insurance Company, 1926

Child Labor in Fruit and Hop Growing Districts of the Northern Pacific Coast By Alice Channing U. S. Department of Labor, Children's Bureau Bureau Publication No. 151. Pp 52, with illustrations Washington: Government Printing Office, 1926

Health Heroes: Louis Pasteur By Grace T. Hallock and C. E Turner, Associate Professor of Biology and Public Health, Massachusetts Institute of Technology Paper. Pp 32, with illustrations New York: Metropolitan Life Insurance Company, 1925.

Introduction à l'étude de la psychogénèse Essai de bio psychologie évolutive Par le Dr. Maurice Dide, Directeur-médecin des Asiles d'aliénes Paper. Price, 12 francs Pp 221. Paris: Masson & Cie, 1926

Report of the Committee on Public Health of the Medical Society, County of Kings on Periodic Medical Examinations of Apparently Healthy Persons Brooklyn, 1926

Poor Relief in Pennsylvania A State Wide Survey. By Emil Frankel. Commonwealth of Pennsylvania, Department of Welfare. Bulletin 21. Harrisburg, 1925

Transactions of the Thirty First Annual Meeting of the American Laryngological, Rhinological and Otological Society, Inc, 1925 The Society, 1925.

Proceedings of the Inter State Post Graduate Medical Assembly of North America. St. Paul, Minnesota, October, 1925. Milwaukee, 1926

Report of the Forty Eighth Annual Meeting of The American Bar Association. September, 1925. Baltimore, 1925.

Annual Report of the General Education Board. 1924-1925. New York: General Education Board, 1926.

Transactions of the American Gynecological Society. Volume 50. For the year 1925. Philadelphia, 1925.

Medicolegal

Indemnity Insurance of Alleged Charitable Hospital

(Levy v. Superior Court of California in and for the City and County of San Francisco (Calif.), 239 Pac. R. 1100)

The District Court of Appeal of California, first district, division 1, says that an action was commenced by one Mae Kilroy Kane against the Mount Zion Hospital, a corporation, and others to recover damages for bodily injuries alleged to have been caused by the negligence of the corporation and its servants in the care and treatment of the plaintiff while a patient in the hospital conducted by the corporation. The corporation denied negligence and as a further defense alleged that it was organized and existed solely for charitable and nonprofit purposes, and that the hospital was operated solely for such purposes. That the plaintiff, desiring to take the deposition of the secretary of the corporation, had a subpena issued requiring his appearance before the court and that he bring a certain policy of indemnity insurance. He appeared as required, but, notwithstanding direction by the court to answer, refused to answer questions asked him as to whether he had brought with him the indemnity insurance policy, and whether the corporation carried a policy which insured it against the consequences of the negligent acts of its employees. He was then adjudged guilty of contempt of court, and thereafter instituted this proceeding to review the judgment of the court, which is annulled, because it is considered that the evidence would not be admissible for any purpose under the pleadings and that therefore the court was without jurisdiction to adjudge him guilty of contempt.

One of the contentions was that, assuming the corporation to be a charity as alleged, the policy in question protected the trust fund against depletion, and that therefore the reason for the rule, if any, exempting the corporation from liability, and based on the fact of the trust fund, failed. But no authorities holding in accordance with the argument of counsel in this behalf were called to the attention of the district court of appeal; and it is this court's opinion that the theory that a charity, not otherwise subject to liability, may become liable by reason of the procurement by those administering it of indemnity insurance cannot be supported in principle

It was further contended that the policy would be admissible as evidence tending to show the character of the corporation and the manner of conducting the hospital. The character of the corporation was to be determined not alone by the powers and purposes defined in its articles of incorporation, but also by the method of transacting the business of the hospital. As a general rule, any facts having rational probative value would be admissible for that purpose; and it was urged that the policy would be relevant as the basis for certain inferences, in that the act of the officers of the corporation in procuring the insurance policy would be evidence of their consciousness that the corporation was not a charity as alleged, and that the hospital was not being conducted for such purposes, but for purposes making necessary or proper the procurement of insurance protecting the corporation from the possible legal consequences of its conduct, and from such consciousness might be inferred the ultimate fact sought to be shown. However, while the evidence offered had indirectly a degree of probative value on the issue as to the character and purposes of the corporation, the ultimate conclusion sought to be drawn therefrom was not the plain or most probable one, and the weight which might fairly be given thereto would not overcome the well settled reasons of policy for the exclusion of evidence of this character; and when the uncertainty as to the rule to be applied to facts such as were alleged in the pleadings mentioned was considered, it appears to the district court of appeal that the act of the corporation in procuring a policy of the character assumed could be the basis for no reasonable inference other than that, as a prudent trustee, in view of such uncertainty, it deemed such protection necessary and proper, pending action by the legislature or a final determination of the question by the courts. The uncertainty referred to the court described as that indicated by the language in *Stewart* v. *Cal. Medical, etc., Assn*, 178 Cal. 418, 423, 176 Pac. 46, which had been cited as authority for the contention that, assuming the allegations as to the character and purposes of the corporation to be true, the rule of exemption from liability for the negligent acts of the employees of a charity has not been adopted as the rule in California, a question with which the court says that it was not concerned at this time.

Putting of Baby in Evidence for Inspection

(Thorne v. State (Ala.), 105 So. R. 709)

The Court of Appeals of Alabama, in affirming a judgment of conviction of defendant Thorne on a charge of seduction, says that the state was permitted, over the objections of the defendant, to make profert of, or put in evidence for inspection, the baby which was alleged to have been born as the result of the alleged seduction. Thus, for the first time, so far as this court could find, was the question of the profert of a baby in a seduction case presented squarely to the court. It is to be conceded that, even in bastardy cases, the authorities are in conflict. But in a bastardy proceeding it has been held in Alabama that it is competent to make profert of the baby, after proper identification, to show resemblance to the reputed father. Still the uncertainty of this character of proof is everywhere conceded, and, but for the Alabama decisions on the subject, this court might be inclined to hold otherwise. Yet, however unsatisfactory it may be, where, as in this case, the question of the paternity of the child becomes relevant for any purpose, the jury should have the benefit of a personal inspection of the child that through the sense of sight the jury may draw its own conclusions as to a resemblance between the defendant and the baby. If there had been no denial of intercourse at the time as testified to by the prosecutrix, a different rule might apply; but in this case the defendant denied the cohabitation, so that, if the child born as a result of intercourse at about the time testified to by the prosecutrix was of such resemblance to the defendant as to impress the jury that the child was the defendant's, such evidence would corroborate the testimony of the prosecutrix and tend to an impeachment of the defendant's statement that he did not have intercourse with the prosecutrix. So that, if the admission of this testimony was technically inadmissible at the time of its admission, it became legal after all the facts had been brought out. Profert of the baby was properly allowed. The child being in evidence for inspection, it was permissible for the solicitor to take it in his arms and exhibit it before the jury. It was also competent to prove by a qualified physician the period of average gestation, which would tend to corroborate the testimony of the prosecutrix as to the intercourse.

Disease as an Accidental Injury—Case of a Cold

(Lerner et al. v. Rump Bros. et al. (N. Y.), 149 N. E. R. 334)

The Court of Appeals of New York, in reversing an order which affirmed an award under the workmen's compensation law, says that the state industrial board found that on June 2 the employee in showing fruit and vegetables to a customer was ten minutes in a refrigerator and received a chill that naturally and unavoidably caused a cold to develop, which lowered his disease resisting power, and, as a result, pulmonary edema and cerebral embolism and septic endocarditis developed and caused his death, November 22. The question was whether, on the facts found, the conclusion could be reached that the employee's death was due to an accidental injury which arose out of his employment within the meaning of the compensation law. Death was due to disease. The disease was not an occupational disease, the natural and unavoidable result of the employment. A distinction exists between accidental injury and disease, but disease may be an accidental injury. The exception arises out of abnormal conditions which must be established to sustain an award. Two concurrent limitations have been placed on the right to recover an award when a disease not the natural and unavoidable result of the employment is developed during the course of the employment, although it does not follow that compensation should be awarded in all cases coming literally within these limitations. First, the inception of the disease must be assignable to a determinate or single act, identified in space or time. Secondly, it must also be assignable to something catastrophic or extraordinary. It has been held in this state that cases of voluntary prolonged contacts resulting in disease are to be excluded from the field of accidental injuries.

In this case a causal connection was sought between the exposure to the cold of the refrigerating plant for ten minutes and the death of the employee as the result. The temperature of the plant must have been less than the freezing point of fruits and vegetables, and the outside temperature was probably not excessive, June 2. The exposure, although occurring at a definite time and place, was not catastrophic or extraordinary. It was like the exposure to drafts when one is heated while at work, or to the change between the cold and wet outside and the warmth inside, which is not infrequently encountered by the workman after coming to his work in inclement weather. Such contacts of the body with the draft or with changes of temperature are natural and normal, and often unavoidable in the conduct of a business. A resulting cold would present itself as a disease and not as an accident.

While it may be difficult to make nice and exact discriminations between disease as an accidental injury and disease which is neither accidental nor an injury in the common acceptance of the terms, it is not difficult to distinguish a case of ordinary exposure resulting in a cold from a case of emergent, prolonged exposure. The definite event here was the change from a hot room to a cold one, as if one should step out of a hot room into the cold in the winter without adequate protection. To call the sequent cold an accidental injury would be to distort the fair meaning of the statute and the underlying principle of compensation cases. The award in this case should be vacated, and the claim dismissed.

Conclusiveness of Expert Testimony

(William Simpson Const. Co. et al. v. Industrial Accident Commission et al. (Calif.), 240 Pac. R. 58)

The District Court of Appeal of California, second district, division 1, in annulling an award of compensation made under the workmen's compensation act for the death of an employee of the construction company who fell from a scaffold about 12 feet from the ground and died about one and one-half hours thereafter, says that the physicians who performed a necropsy the next day found an extensive subdural hemorrhage covering the base and lateral surfaces of the brain, and a basal fracture running across the base of the middle fossa of the skull. The physicians further found a pontile hemorrhage in the brain, which they testified was caused by a stroke of apoplexy, and they gave as their opinion that the stroke preceded and was the cause of the fall, and was therefore the proximate cause of the man's death. The industrial accident commission, however, disregarded the opinion of the medical experts, and found that the fracture of the skull caused by the fall and the subdural hemorrhage from it were the proximate cause of the man's death, and made an award in favor of his dependents. Against this it was contended that the commission was without authority to reject the uncontradicted testimony of the medical experts and to render an award based on a finding that death was due to a cause other than that given therefor by the experts.

In California it has frequently been held that the proper or usual practice and treatment by a physician or surgeon in the examination and treatment of a wound or injury is a question for experts, and can only be established by their testimony. The rule to be drawn from these decisions, as this court understands them, appears to be that whenever the subject under consideration is one within the knowledge of experts only, and is not within the common knowledge of laymen, the expert evidence is conclusive on the question in issue. It follows that in such cases neither the court nor the jury can disregard such evidence of experts, but, on the other hand, they are bound by such evidence, even if it is contradicted by nonexpert witnesses. The same rule would, of course, apply to a proceeding before the industrial accident commission. Under this rule, the commission, in the present proceeding, could not reject the evidence of the medical experts when testifying on any subject peculiarly within their own knowledge. The same rule would apply as to opinions of the medical experts on a subject solely within their professional knowledge, and not within the knowledge of the ordinary individuals.

In this proceeding the evidence of the medical experts as to the condition of the man's skull at the time of the necropsy, and the presence therein of the fracture, and the two hemorrhages, the extent and character of these hemorrhages, and their origin and cause, and their probable effect on the man, and whether they, or either of them, was sufficient to produce death, dealt entirely with matters with which only medical men are familiar, and concerning which they alone could give any intelligent information to the commission. This evidence, being uncontradicted, was binding on the commission, and, according to the foregoing rule, the latter could not reject the same and act on their own knowledge or conclusions But no one saw the man immediately preceding or at the time of the fall There was nothing in the appearance or condition of either hemorrhage to indicate which one occurred *first in point of time The physicians testified that either one* was sufficient to cause death. The only reason assigned for the opinion that the fall was preceded by the stroke of apoplexy was that the pontile hemorrhage was not traumatic. Under all the circumstances, the court thinks that the opinion of the physicians that the stroke of apoplexy occurred prior to the fall was mere conjecture on their part and not based on any evidence warranting such a conclusion, wherefore the commission was not bound by that opinion However, the award made by the commission could not be sustained by this court, because, if the evidence before the commission was insufficient to justify the expert witnesses in concluding that apoplexy was the proximate cause of the man's death, for like reasons it was insufficient to justify a conclusion on the part of the commission that death was due to the fall, uninfluenced and uninduced by the stroke of apoplexy. With the evidence in such a state, any opinion as to the proximate cause of death was a mere surmise and conjecture and not based on any foundation sufficient to support a finding of fact. Hearing denied by supreme court.

Use of Unverified Notes Interpreting Roentgenograms

(Vincent v Otis Elevator Co et al (N Y), 212 N. Y. Supp. 76)

The Supreme Court of New York, Appellate Division, Third Department, on this appeal from an award by the state industrial board of compensation under the workmen's compensation law, tersely says: Award reversed, and matter remitted, with costs against the state industrial board to abide the event, on the ground that the finding that the claimant at the date of the accident was suffering from a tuberculous condition, which became activated by the accidental injury, was based on certain notes interpreting roentgen-ray pictures made by a physician who was not called to verify the pictures or the notes, and was therefore grounded on other than legal evidence.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Mobile, April 27-30. Dr. D L. Cannon, 519 Dexter Avenue, Montgomery, Assistant Secretary

American Association of Genito-Urinary Surgeons, Hot Springs, Va , May 10 12 Dr H G Bugbee, 40 E 41st Street, New York, Secretary.

American Association of Industrial Physicians and Surgeons, Philadelphia, May 24 26 Dr. F. L Rector, 22 East Ontario Street, Chicago, Secretary.

American Bronchoscopic Society, Montreal, Canada, May 29. Dr. Henry B Orton, 671 Broad Street, Newark, N. J , Secretary

American Child Health Association, Atlantic City, May 17-22. Dr. S J. Crumbine, 370 7th Ave , New York City, Secretary.

American Dermatological Association, Niagara Falls, Canada, May 27 29. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary

American Gastro-Enterological Association, Atlantic City, May 3 4. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.

American Gynecological Society, Stockbridge, Mass , May 20 22. Dr. A. H. Curtis, 104 S Michigan Ave , Chicago, Secretary.

American Laryngological Association, Montreal, Canada, June 3-5. Dr. George M Coates, 1811 Spruce Street, Philadelphia, Secretary.

American Laryngological, Rhinological, and Otological Society, Montreal, Canada, May 31-June 2. Dr. Robert L. Loughran, 145 West 58th Street, New York, Secretary.

American Neurological Association, Atlantic City, June 1-3. Dr. Henry A Riley, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., June 14 16. Dr Emory Hill, Professional Building, Richmond, Va , Secretary.

American Orthopedic Association, Atlanta, April 26 28. Dr. De Forest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.

American Otological Society, Montreal, Canada, May 31-June 3. Dr. Harold Walker, 390 Commonwealth Avenue, Boston, Secretary.

American Pediatric Society, Niagara Falls, Canada, May 31 June 2. Dr Howard Childs Carpenter, 1805 Spruce Street, Philadelphia, Secretary

American Psychiatric Association, New York City, June 8 11. Dr. Earl D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, New York City, June 11 Dr. Sanger Brown II, 173 East 70th Street, New York City, Secretary.

American Roentgen Ray Society, Detroit, May 18 22. Dr. C. L Martin, Baylor Hospital, Dallas, Texas, Secretary.

American Society of Clinical Investigation, Atlantic City, May 3. Dr. J H Austin, University of Pennsylvania, Philadelphia, Secretary.

American Surgical Association, Detroit, May 24-26. Dr. R. B. Greenough, 8 Marlborough Street, Boston, Secretary

American Therapeutic Society, Philadelphia, June 10-12 Dr. W J. *Mallory, 1720 Connecticut Ave , N. W , Washington, D. C , Secretary.*

American Urological Association, Boston, May 17-19. Dr. H. G Hamer, 723 Hume-Mansur Building, Indianapolis, Ind , Secretary.

Arizona Medical Association, Globe, April 25 27. Dr. D F. Harbridge, 407 Goodrich Building, Phoenix, Secretary.

Arkansas Medical Society, Hot Springs, May 18 20. Dr. W. R Bathurst, 810 Boyle Building, Little Rock, Secretary.

Association of American Physicians, Atlantic City, May 4-5. Dr. F. W. Peabody, Boston City Hospital, Boston, Secretary.

California Medical Association, Oakland, April 26 May 1. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.

Conference of State and Provincial Health Authorities, Atlantic City, N J , May 21 22 Dr Richard M. Olin, State Commissioner of Health, Lansing, Mich , Secretary

Connecticut State Medical Society, New Haven, May 19 20. Dr. C. W. Comfort, Jr , 27 Elm Street, New Haven, Secretary.

Florida Medical Association, Gainesville, May 3 5. Dr. Shaler Richardson, 111 W Adams Street, Jacksonville, Secretary.

Georgia, Medical Association of, Albany, May 12-15. Dr. A H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.

Hawaii Territorial Medical Association, Honolulu, April 25 28. Dr. F. J. Pinkerton, 46 Young Building, Honolulu, Secretary.

Illinois State Medical Society, Champaign, May 18 20. Dr. H. M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, May 12 14 Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Kansas City, May 4 6. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.

Maine Medical Association, Poland Springs, June 10 12. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 27-29. Dr J A Chatard, 1211 Cathedral Street, Baltimore, Secretary.

Massachusetts Medical Society, Springfield, June 8 9. Dr. W. L Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, Ann Arbor, Mich , June 8 9 Miss Harriet Wilson, 535 North Dearborn Street, Chicago, Secretary.

Minnesota State Medical Association, St. Paul, May 17-19. Dr. E. A. Meyerding, 11 W. Summit Avenue, St Paul, Secretary.

Mississippi State Medical Association, Jackson, May 11-13. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.

Missouri State Medical Association, St Louis, May 17-20. Dr. E. J. Goodwin, 901 Missouri Building, St Louis, Secretary.

National Association for the Study of Epilepsy, New York City, June 7 8. Dr A. L Shaw, 108B The Albiston, Utica, N. Y , Secretary.

Nebraska State Medical Association, Omaha, May 11-13. Dr. R. B. Adams, McKinley Building, Lincoln, Secretary.

New Hampshire Medical Society, Concord, May 25 26. Dr. D E Sullivan, 7 North State Street, Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 17-19. Dr. J. B Morrison, 97 Halsey Street, Newark, Secretary

New Mexico Medical Society, Albuquerque, May 19 21. Dr. C. M Yater, 310 N Richardson Avenue, Roswell, Secretary.

North Carolina, Medical Society of the State of, Wrightsville Beach, June 15 17. Dr L B McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Minot, May 25 26. Dr. A. J. McCannell, Minot, Secretary

Ohio State Medical Association, Toledo, May 11-13. Mr. Don K. Martin, 131 E State Street, Columbus, Executive Secretary

Rhode Island Medical Society, Providence, June 3 Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

South Dakota State Medical Association, Aberdeen, May 19 20. Dr John F D Cook, Langford, Secretary.

Tennessee State Medical Association, Memphis, May 11-13. Dr. J. F. Gallagher, Jackson Building, Nashville, Secretary.

Texas, State Medical Association of, Houston, May 24 27. Dr. Holman Taylor, 207½ West 11th Street, Fort Worth, Secretary.

Utah State Medical Association, Salt Lake City, May 6 8. Dr. F. B Steele, Boston Building, Salt Lake City, Secretary.

West Virginia State Medical Association, Morgantown, May 25 27. Mr. S O. Neale, 211 Smallridge Building, Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to The Journal in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Physiology, Baltimore

75: 533-709 (Feb.) 1926

*Is Vitamin A Secreted Through Skin? Vitamin A in Wool Fat. S. V. Gudjonsson, Copenhagen, Denmark.—p. 533.
*Influence of Testes on Metabolism. E. P. Bugbee and A. Simond, Detroit.—p. 542.
Capillary Pressure in Frog Mesentery as Determined by Micro-Injection Methods. E. M. Landis, Philadelphia.—p. 548.
*Blood Diastases in Depancreatized Dogs. J. Markowitz and H. B. Hough, Toronto.—p. 571.
Effect of Thyroidectomy on Some Unconditioned Responses of Sheep and Goat. H. S. Liddell, Ithaca, N. Y.—p. 579.
Stereoscopic Projection and Ridgway's Standards as Methods of Investigating Color Blindness. T. W. Wingate, H. D. Iler and D. A. Chambers, Cleveland.—p. 591.
Physiology of Sleep. IV. Effect of Sleep on Respiration. C. I. Reed and N. Kleitman, Chicago.—p. 600.
Action of Insulin on Domestic Fowl. G. J. Cassidy, S. Dworken and W. H. Finney, Montreal.—p. 609.
Physiologic Action of Light. VI. Alterations in Cell Electrophoretic Potential Produced by Direct Irradiation of Blood in Vivo. I. S. Falk and C. I. Reed, Chicago.—p. 616.
*Cholesterol and Phosphatide Metabolism in Pregnancy. E. J. Baumann and O. M. Holly, New York.—p. 618.
Cholesterol and Phosphatide Distribution in Some Tissues of Pregnant and Nonpregnant Rabbits. E. J. Baumann and O. M. Holly, New York.—p. 633.
*Effect of Pancreatectomy on Secretion of Succus Entericus. W. Koslowski and A. C. Ivy, Chicago.—p. 640.
Nutrition of White Mouse. H. H. Beard, New Haven, Conn.
  I. Normal Growth and Nutritive Requirements.—p. 645.
  II. Effect of Feeding Diets Rich in Protein and Diets Containing Unbalanced Salt Mixtures. Rôle of Certain Sulphur Components.—p. 658.
  III. Vitamin Factors in Nutrition of Mice.—p. 668.
  IV. Relation Between Diet and Reproduction.—p. 682.
Mineral Metabolism Studies with Dairy Cattle: Mineral Equilibrium During Gestation. H. G. Miller, W. W. Yates, R. C. Jones and P. M. Brandt, Corvallis, Ore.—p. 696.

Vitamin A in Wool Fat.—Argentine wool fat was proved by Gudjonsson not to contain vitamin A. Icelandic wool fat proved to contain vitamin A in rather large quantities. The vitamin A was destroyed on heating. It is thought probable that vitamin A is secreted through the skin.

Influence of Testes on Metabolism.—Experiments made by Bugbee and Simond with a castrated male dog failed to show that castration in itself reduces the basal metabolic rate. Other factors to be considered are lack of psychic stimulation, lack of muscular exercise, adaptation of the nervous system and endocrine gland system to a life calling for less metabolism than in an active normal life.

Blood Diastases in Depancreatized Dogs.—No facts were elicited by Markowitz and Hough which would justify the employment of blood diastase estimations in clinical diabetes.

Cholesterol and Phosphatide Metabolism in Pregnancy.—The lipoidemia of human pregnancy is explained by Baumann and Holly as a reaction similar to those called forth by any intoxication, and reasons for the different findings in man and the rabbit are suggested.

Effect of Pancreatectomy on Succus Entericus.—Koskowski and Ivy assert that total pancreatectomy does not materially affect the quantity of the secretion of succus entericus. The invertase content is definitely increased from three to seven days, but fluctuates, and then there is a tendency for it to return to a level slightly above normal. Total pancreatectomy causes a temporary decrease in the amylase content of succus entericus, but has no effect on the lipase content. For the first eighteen days following pancreatectomy, no compensatory changes occur in the secretion of succus entericus which would facilitate intestinal digestion.

American Journal of Roentgenology and Radium Therapy, New York

15: 1-92 (Jan.) 1926

Dosage Study Relative to Therapeutic Use of Unfiltered Radion. G. Failla, F. Adair, E. H. Quimby, K. Sugiura, C. Arnell and W. Goldsmith, New York.—p. 1.
Treatment of Epithelioma of Penis with Radium and Roentgen Rays. A. L. Dean, New York.—p. 36.
Malignant Tumors of Testis. E. L. Keyes, New York.—p. 44.
Complete Insulation Versus Grounding as Protection Against High Tension Electric Shocks. W. F. Hemler, Washington, D. C.—p. 49.
*Roentgen-Ray Study of Bronchiectasis. J. J. Singer and E. A. Graham, St. Louis.—p. 54.
*Secondary Evidence of Gallbladder Disease. W. W. Belden, New York.—p. 58.
*Demonstration of Bronchial Tree by Intratracheal Injections of Lipiodol. H. W. Grady, Washington, D. C.—p. 65.
New Devices for Implantation and Removal of Radium Needles. H. Wachtel, Cracow, Poland.—p. 76.

Drainage for Bronchiectasis.—Singer and Graham advise that postural drainage be instituted in bronchiectatic cases after the first plate is taken. Subsequent plates will give information as to the relative size of the bronchiectatic area.

Secondary Evidence of Gallbladder Disease.—The importance of the findings of indirect signs of gallbladder disease are emphasized by Belden. He says that no gallbladder examination is complete without a roentgenoscopic examination of the stomach and duodenum and a roentgenographic examination when possible, because the filling defects caused by adhesions and pressure from a distended gallbladder very markedly increase the percentage of diagnosis of gallbladder disease.

Lipiodol in Lung Examinations with Roentgen Ray.—Grady has used lipiodol for the purpose of demonstrating bronchiectasis and lung abscess. The intercricothyroid route was used in all cases. Roentgenograms are made immediately after the injection. The greater part of the lipiodol is eliminated by coughing within a few hours after the injection. The remainder gradually disappears, usually in from one to two weeks. In one case a small amount remained in the lung four months after the injection. No immediate or late ill effects of any importance have been observed.

American Review of Tuberculosis, Baltimore

13: 97-191 (Feb.) 1926

*Vital Staining in Experimental Tuberculosis. R. H. Jaffe, Chicago.—p. 97.
Reaction and Growth Curves of Cultures of Tubercle Bacilli. R. R. Henley, Washington, D. C.—p. 107.
*Unsuccessful Attempts to Cure or Prevent Tuberculosis in Guinea-Pigs with Dreyer's Defatted Antigen. M. Nevin, F. R. Bittman and E L Hazen, New York.—p. 114.
*Latent Tuberculosis in Childhood. VI. F. Eberson, San Francisco.—p. 124.
Extrapleural Thoracoplasty. L. S. Peters, Albuquerque, N M.—p 149.
*Artificial Pneumothorax. A. Swezey and A. Schonbar, Denver.—p. 156.
Accidental Pneumothorax Complicating an Attempt to Induce Artificial Pneumothorax. S. Simon, Denver.—p. 168
Metallic Sound. H. M. Kinghorn, Saranac Lake, N. Y.—p. 175.

Vital Staining in Experimental Tuberculosis.—Jaffe asserts that most intensive vital staining of rabbits with india ink or colloidal iron does not prevent the formation of tubercles. This observation is not in accordance with the possibility of a functional elimination of cells by the granular storage of foreign material. The decrease of the dye in the growing tubercle, and its absence under certain conditions in larger tubercles, does not result from a diminished vitality of the epithelioid cells, but is due to the lack of proper circulation.

Dreyer's Defatted Antigen in Tuberculosis.—The defatted antigen prepared according to Dreyer's method failed to show either therapeutic or prophylactic benefit when injected by Nevin and his associates into tuberculous guinea-pigs. On the contrary, animals treated with the vaccine died earlier than the untreated controls.

Latent Tuberculosis in Childhood.—One hundred and forty-five cases of juvenile tuberculosis have been studied by Eberson with regard to history, age groups, symptomatology, physical and roentgen-ray findings and tuberculin reactions. It would appear that pulmonary foci are frequently overlooked. The pulmonary foci were found in 46.5 per cent of the patients in this study, and of these, 71.6 per cent showed calcification of the focus or of the adjacent intrapulmonary lymph nodes Peribronchial tuberculosis of the nature of definite pathologic changes or adjacent to bronchial ramifications was demonstrated by the roentgen ray in 5 per cent of the cases Mediastinal adenopathy of clinical significance could be shown with the aid of lateral roentgenograms There was a complete correlation between positive tuberculin tests and clinical and roentgen-ray findings, which warranted the diagnosis of latent or active tuberculosis Quantitative intracutaneous tests with bovine and human tuberculins demonstrated the following 73 per cent reacted more violently or solely to bovine tuberculin, 26 per cent reacted more strongly to human tuberculin, and 1 per cent reacted to human tuberculin only Lymphangitis accompanying tuberculin tests occurred in three additional cases Interpretation of the test depends on the kind of tuberculin used, and a test is of value only when made with derivatives of tuberculin which contain an active principle that is as yet not clearly determined Quantitative comparable results can be obtained by the use of highly graduated dilutions of different types of tuberculin when these have been standardized previously Eberson believes that the value of a positive tuberculin test in the presence of adenopathy cannot be doubted if it be remembered that the self same diseases of childhood which may cause nonspecific adenopathy are known to "extinguish" tuberculin reactions

Artificial Pneumothorax—The data obtained by Swezey and Schonbar from a study of 207 cases of artificial pneumothorax are not considered convincing enough to justify definite conclusions as to the indications and contraindications for artificial pneumothorax treatment The best results were obtained in cases in which a successful collapse was secured with the contralateral lung only slightly involved, and which were free of serious complications interfering with the nutrition of the patient such as enteritis or active laryngitis Advanced lesions in the "good' lung contraindicate the treatment As to all the cases, while the balance of evidence seems to be slightly in favor of the treatment, yet considering especially the frequency of complications resulting from this treatment in such cases, it is probably best not to be too optimistic about it unless the treatment becomes imperative for the purpose of controlling hemoptysis A reasonable trial should be given first to other forms of immobilization, such as strict bed rest, posture treatment or the chest belt

Archives of Dermatology and Syphilology, Chicago

13 137 300 (Feb) 1926

- *Creeping Eruption J L Kirby Smith, W E Dove and G F White, Jacksonville Fla —p 137
- *Physical Allergy as Cause of Dermatoses W W Duke, Kansas City —p 176
- *Cutaneous Reaction in Leishmaniasis J Montenegro Sao Paulo Brazil —p 187
- *Bismuth Salicylate in Experimental Rabbit Syphilis O M Gruhzit, Detroit —p 195
- *Gastric Acidity in Acne Vulgaris F C Knowles and H B Decker, Philadelphia —p 215
- *Intramuscular Absorption of Some Insoluble Bismuth Compounds as Revealed by Roentgen Ray H N Cole, H L Farmer and H Misldjian Cleveland —p 219
- Epilation in Mice as Biologic Standard for Determining Roentgen Ray Dosage H H Hazen and L C Milstead Washington, D C —p 230
- *Intravenous Administration of Sulpharsphenamine in Syphilis M F Lautman Hot Springs Ark —p 234
- *Ultraviolet Light Treatment of Roentgen Ray Telangiectases C G Lane, Boston —p 237

Parasite in Creeping Eruption—Five microscopic nematode parasites have been recovered by Kirby-Smith, Dove and White, from serial sections of skin tissue excised from patients with creeping eruption This is the first recovery of the nematode from lesions of creeping eruption It has been given the name *Agamonematodum migrans* by the authors Cases in persons most extensively infested have originated underneath buildings when men at work were wet with perspiration and were in contact with the damp sandy soil Minor infections have often occurred in children playing in low areas where apparently surface drainage had disseminated the parasites The inability to locate the parasite definitely has much to do with the difficulty experienced in treatment When the parasite has invaded the sole or the palm, the difficulty is increased Ethyl acetate applied on cotton or gauze or used in a flexible collodion has been effective in many cases Refrigeration with ethyl chloride, carbon dioxide snow, or crushed ice with salt has been used successfully

Physical Allergy as Cause of Dermatoses.—Physical allergy is a name suggested by Duke for altered reaction caused specifically by the action of physical agents such as light, heat, cold and mechanical irritation, and in the case of heat sensitiveness, indirectly by the effect of mental or physical exertion The reactions produced are of two varieties (1) contact reactions and (2) reflex-like reactions The cutaneous symptoms vary with the degree of sensitiveness of the patient and with the intensity of the exposure

Cutaneous Reaction in Leishmaniasis—Intradermal injections of an alkaline extract of *Leishmania* were given by Montenegro to thirty-seven patients with leishmaniasis, and positive reactions were obtained in thirty-two of them, or 86 5 per cent Injections with the same extract were also given to thirty-six persons free from leishmaniasis Of these, thirty three developed negative reactions, and three showed a certain reaction definitely distinct from the specific reactions obtained with the patients who had leishmaniasis

Bismuth Salicylate in Syphilis—The results of Gruhzit's experimental work lead him to conclude that bismuth salicylate possesses high spirocheticidal power and causes no pain or irritation at the site of injection, its rate of absorption appears to be better than that of metallic suspensions and is equal to that of tartrobismuthates

Gastric Acidity in Acne Vulgaris—Twenty-five patients with acne vulgaris, varying in duration, type and severity, were examined by Knowles and Decker for total and free hydrochloric acidities by the fractional gastric analysis method Ten cases showed a total acidity below 50, seven between 50 and 60, four between 60 and 70 and the remaining four above 70 The acid values apparently had no relation to the duration, type or severity of the condition Patients with a low acidity were improved when given a mixture containing dilute hydrochloric acid

Intramuscular Absorption of Insoluble Bismuth Compounds.—The findings of Cole et al indicate that injections of metallic bismuth are dangerous and if persisted in will lead to cumulative absorption and possibly even to fatal results The same is probably true, although to a lesser extent, of bismuth oleate Bismuth salicylate, likewise, is not above this objection and its use should be replaced by one of the more soluble bismuth salts—perhaps the potassium-bismuth tartrate preparations These salts, especially if injected intragluteally, once a week are probably not so likely to give rise to cumulative action However, the patient should be observed closely as even this salt is not above criticism so far as its absorption is concerned The contention that insoluble bismuth salts must be injected twice weekly, in the authors' opinion is open to question, as only a small amount of the salt will be absorbed, at the most Moreover, too frequent deposits may lead to cumulative action, toxic symptoms and even the death of the patient

Sulpharsphenamine Intravenously in Syphilis—Very good results are reported by Lautman from the use, intravenously, of sulpharsphenamine In cases of syphilis which are Wassermann-negative and free from clinical symptoms, sulpharsphenamine seems quite as capable of controlling the disease as the older arsenicals In neural syphilis sulpharsphenamine is even more effective than arsphenamine or neoarsphenamine Given intravenously, sulpharsphenamine did not produce dermatitis and caused practically no constitutional reactions Lautman says that on account of the absence of disagreeable reactions patients submit more willingly to treatment with sulpharsphenamine, and, consequently, it is indicated in cases in which the maximum spirocheticidal effect of arsphenamine and neo-arsphenamine is not essential

Ultraviolet Ray Treatment of Roentgen-Ray Telangiectases—One case in point is reported by Lane His experience prompts him to recommend that a proper dosage, three and one-half to four and one-half minutes, or enough to produce flaccid vesiculation, should be used, that proper intervals both between areas treated and dates of treatment be observed, and that areas of telangiectases without marked atrophy and not too large can be benefited by ultraviolet ray treatment. The seriousness of traumatizing tissue already atrophic and degenerative by reason of an agent with a somewhat shorter wave length must be borne in mind, and the treatment should be undertaken with great caution, with a full knowledge of the abnormal tissue which is being treated, and with great care to prevent infection of the bullae and erosions produced by treatment.

Archives of Surgery, Chicago

12: 453-618 (Feb.) 1926

Prognosis and Treatment of 111 Fractures of Femur. A. P. C. Ashhurst and E. T. Crossan, Philadelphia.—p. 453.
*Umbilical Hernia: Operative Treatment. H. B. Stone, Baltimore.—p. 494.
*Coxa Vara. T. P. Noble and E. D. Hauser, Rochester, Minn.—p. 501.
*Gaucher's Disease: Case Showing Bone Disintegration and Joint Involvement. E. H. Cushing and A. P. Stout, New York.—p. 539.
*Fibrosarcoma of Thyroid. I. T. Zeckwer, Boston.—p. 561.
Gastric Motility. I. Origin and Character of Gastric Peristalsis. E. Klein, New York.—p. 571.
Id. II. Conduction of Gastric Peristaltic Wave. E. Klein, New York.—p. 583.
Pulmonary Blood Pressures. J. E. Scarff, Baltimore.—p. 591.
Report on Surgical Convalescence of Public Health Committee of New York Academy of Medicine.—p. 601.
Twenty-Eighth Report of Progress in Orthopedic Surgery. R. B. Osgood *et al.*—p. 604.

Operation for Umbilical Hernia.—The usual transverse elliptic incision is made by Stone surrounding the umbilicus and carried down to the anterior sheath of the rectus muscles all around. The neck of the sac is isolated, the sac opened, and its contents dealt with as conditions may require to secure reduction. Then the sac and skin immediately about the umbilicus are excised, leaving only a narrow margin of peritoneum about the hernial orifice. This orifice is not enlarged, but is closed by mattress sutures of strong silk or catgut so as to convert the oval or round orifice into a straight transverse line of closure. The second row of sutures is also a series of interrupted mattress stitches, overlapping the first row, which they bury, and forming another transverse line of closure over the first. The span of each of these stitches is about 1 cm. wider than the first row of stitches, so that when they are tied an inverted buttress of anterior sheath, about 1 cm. in depth, is turned inward over the first layer of closure. The point of especial emphasis is that this second row of sutures begins well laterally to each end of the first row, which simply closed the hernial orifice.

Coxa Vara: Etiology.—Noble and Hauser are of the opinion that there is considerable evidence that the pituitary gland plays an important part in this disease, and that trauma plays a minor part.

Gaucher's Disease.—Two new cases of Gaucher's disease are reported by Cushing and Stout. There was a considerable proportion of the cerebrosid kerasin in the spleen of one of these patients. This confirms the work of Lieb and Epstein. It seems reasonable to suppose that this substance is contained within the cytoplasm of the Gaucher cells. It has been demonstrated that the presence of the large cells in the bone marrow of the head and neck of the femur may result in a marked destruction of bone and produce a chronic osteoarthritis with sequestrum formation. Of the various types of treatment attempted, splenectomy is the only one that has been attended with any measure of success. The authors feel that there is no indication that the disease is cured by this procedure. It is their opinion that enough evidence does not exist to show that splenectomy actually prolongs life, although the figures suggest that it may. In the majority of cases, splenectomy does not result in an amelioration of symptoms; the general health and strength improve, and the tendency to bleed is diminished.

Fibrosarcoma of Thyroid.—The case described by Zeckwer was one of fibrosarcoma of the thyroid gland which showed rapid growth, involving the recurrent laryngeal nerve and producing massive metastases in the lungs. Proof of the *fibroblastic origin of the tumor was offered by the demonstration* of fibrils by histologic methods.

Boston Medical and Surgical Journal

194: 381-424 (March 4) 1926

Present Status of Effect of Organ Extracts on Control of Blood Pressure. W. J. MacDonald and T. C. Burnett, Boston.—p. 381.
*Cancer in Massachusetts. J. H. Nichols, F. W. Goodhue, M. E. Champion, G. H. Bigelow and H. L. Lombard, Boston.—p. 388.
*Etiology of Congenital Club Foot. C. Bearse, Boston.—p. 394.

Cancer in Massachusetts.—In compliance with a legislative resolve, the departments of public health and public welfare of Massachusetts made an investigation in 1925 on the cancer situation in Massachusetts. The significant findings were: cancer is on the increase, but there are indications that the peak of the curve may be nearly reached. Massachusetts had the highest death rate of any state in the union. The proportionate mortality for cancer among inmates of almshouses and insane institutions is lower than among the general population *of the same age distribution. The cancer rate increased with* density up to a population of about 4,000 per square mile. From there it remains nearly stationary. The cancer rate increases from west to east in Massachusetts. The average duration of life for patients operated on for cancer who die of cancer is 22.8 and for patients not operated on, 20. The average duration from onset to operation is 10.3 months. The average patient comes to a doctor eight months after first noticing symptoms. About one fourth of all cancer deaths occur in hospitals, but the length of stay in hospitals is too short to be considered adequate. The hospitals are increasing their share of the cancer load. There is need for additional beds for cancer cases as well as for all chronic diseases. Quacks are not a large factor in the inoperable cancer problem in Massachusetts. Further education of the public as to early diagnosis and treatment is necessary.

Etiology of Clubfoot.—The case cited by Bearse shows that it is possible to have a club foot deformity without any intra*uterine conditions entering into it.* The fetus was estimated to be 14 weeks old and had a single clubfoot.

Iowa State Medical Society Journal, Des Moines

26: 55-100 (Feb.) 1926

Diagnostic Net: Medical Viewpoint. F. G. Murray, Cedar Rapids.—p. 55.
*Treatment of Pernicious Anemia with Mercurochrome. P. B. McLaughlin, Sioux City.—p. 58.
Hydronephrotic Kidney. R. L. Latchem, Sioux City.—p. 60.
Perinephritic Abscess. R. H. Lott, Carroll—p. 62.
Interpretation of Laboratory Reports. D. M. Griswold, Iowa City.—p. 66.
Rickets. L. R. DeBuys, New Orleans.—p. 68
Pathology and Bacteriology of Putrid and Gangrenous Processes: Fusiform Bacilli and Vincent's Spirochete D. J. Davis, Chicago.—p. 76.
Surgical Cases in Lower Abdomen and Pelvis. M. M. Ghent, St. Paul.—p. 80.
Ophthalmology and General Practitioner. J. S. Reynolds, Minneapolis.—p. 86.
Urea as Therapeutic Agent, Especially Postoperative. R. L. Fenlon, Clinton.—p. 87.

Mercurochrome in Treatment of Pernicious Anemia.—During the last eighteen months, McLaughlin has treated fourteen cases of pernicious anemia with intravenous injections of mercurochrome-220 soluble. He states positively that he can produce remissions in the disease more quickly, and that these remissions are more lasting, than with any other treatment. The patients apparently regain their strength and enjoy life. Some of them have taken up their former vocations, and by conserving energies and being more prudent in their ways of living, are now able to earn a livelihood. He is positive that the disease is an infection, the primary infection being a glossitis. McLaughlin's treatment consists of giving intravenously a 1 per cent solution of mercurochrome, in from 15 to 30 cc. doses, every three to five days. Improvement first manifests itself in a very marked increase of appetite, the patient seemingly not being able to get enough to eat. Most of the patients have had the disease two or more years. The majority of them have had blood transfusions a number of times. All have had iron and arsenic by mouth; some have had subcutaneous or intravenous injections of these drugs. Under this treatment the patients gradually grew worse, and most of them were very low in red blood cells and hemoglobin, when they entered the hospital for treatment.

Journal of Biological Chemistry, Baltimore

67: 1-350 (Jan.) 1926

*Effect of Administration of Calcium Salts and of Sodium Phosphate on Calcium and Phosphorus Metabolism of Thyroparathyroidectomized Dogs: Nature of Calcium Compounds of Blood and Their Relation to Pathogenesis of Tetany. I. Greenwald, New York.—p. 1.

*Fate of Creatine When Administered to Man A Chanutin, University, Va —p 29
Iron in Nutrition II Quantitative Methods for Determination of Iron in Biologic Materials C A Elvehjem and E B Hart, Madison, Wis —p 29
Question of Interaction of Insulin, Muscle Tissue and Glucose A D. Barbour, Toronto —p 53
Quantitative Determination of Dihydroxyacetone W. R Campbell, Toronto —p 59
Potassium in Animal Nutrition III Influence of Potassium on Total Excretion of Sodium, Chlorine, Calcium and Phosphorus H G Miller, Corvallis, Ore —p. 71
Occurrence of Urease in Blood Cells, Plasma and Tissues of Limulus L Loeb and O Bodansky, St Louis —p 79
Effect of Histamine on Blood Chlorides T G H Drake and F F. Tisdall, Toronto —p 91
*Effect of High Protein Diets on Kidneys of Rats H Jackson, Jr, and M D Riggs, Boston —p 101
Site of Ammonia Formation and Prominent Rôle of Vomiting in Ammonia Elimination S Bliss, Boston —p 109
*Total Acid Base Equilibrium of Plasma in Health and Disease I Concentration of Acids and Bases in Normal Plasma J P Peters, H A Bulger, A J Eisenman and C Lee, New Haven, Conn —p 141
Id II Effect of Carbon Dioxide Tension on Concentration of Acids of Plasma of Oxygenated Blood A J Eisenman, H A Bulger and J P Peters, New Haven, Conn —p 159
Id III Differences Between Arterial and Venous Blood J P Peters, H A Bulger and A J Eisenman, New Haven, Conn —p 165
Id IV Effects of Stasis, Exercise, Hyperpnea and Anoxemia Causes of Tetany J P Peters, H A Bulger, A J Eisenman and C Lee, New Haven, Conn —p 175
Id V Miscellaneous Pathologic Conditions J P Peters, H A Bulger and C Lee, New Haven, Conn —p 219
Apparent Dissociation Constants of Creatine and Creatinine G S Eadie and A Hunter, Toronto —p 237
Chemical Composition of Beef Blood I Concentration of Certain Constituents in Normal Beef Plasma C S Robinson and C F Huffman, East Lansing, Mich —p 245
Id II Composition of Blood of Dams and Calves Immediately After Calving C S Robinson and C F Huffman, East Lansing, Mich —p 257
*New Sulphur Containing Compound (Thiasine) in Blood S R Benedict, E B Newton and J A Behre, New York —p 267
Fat Solvents C E Bills, Baltimore —p 279
*Four Methods Commonly Used for Determination of Sugar in Blood W F Duggan and E L Scott, New York —p 287.
Titrimetric Double Hydrogen or Quinhydrone Electrode Systems for Hydrion Determination Applications to Urine and Blood G H Meeker and B L Oser, Philadelphia —p 307.
Correction of Folin Wu Blood Sugar Values B L Oser and W G Knarr, Philadelphia —p 319
Nitrogenous Components of Yeast Nucleic Acid P A Levene, New York —p 325
Structural Relationship of Cardiac Poisons W A Jacobs and A Hoffmann —p 333
Conversion of Optically Active Lactic Acid to Corresponding Propylene Glycol P A Levene and H L Haller, New York —p 329
Metabolism of Amino and Fatty Acids H D Dakin, Scarborough on Hudson, N Y —p 341

Effect of Administration of Calcium and Sodium Salts on Metabolism.—Greenwald says that the administration of calcium salts to thyroparathyroidectomized dogs led, at first, to a deposition of a large part of this calcium in the tissues, chiefly as calcium phosphate Later, calcium equilibrium was attained A parathyroidectomized dog receiving a liberal supply of calcium had a normal concentration of calcium in the serum and was resistant to the administration of sodium phosphate (50 mg of phosphorus per kilogram of body weight) as were normal dogs Later, when the supply of calcium was diminished, the concentration of calcium in the serum was much less, and the injection of the same amount of phosphate was followed by tetany It is suggested that the calcium content of the plasma is, normally, maintained at a constant level by an equilibrium between inorganic calcium and an organic compound of calcium. Resemblances between this organic compound and calcium citrate are indicated, but the substances are not identical It is suggested that the parathyroid hormone is necessary to the preparation of this organic constituent The implications of this hypothesis are discussed.

Fate of Ingested Creatine.—Evidence is presented by Chanutin to indicate that creatine has an indirect action on nitrogen metabolism The absorption of creatine from the alimentary tract appears to be complete. There is no evidence of its bacterial destruction in the alimentary tract. The creatinine content of the urine in man increases after ingestion of large doses of creatine Data are presented to prove that extra creatine excretion is derived directly from the creatine fed.

Effect of High Protein Diet on Kidney.—By feeding very high protein diets for from ten to twenty months, about a third of a rat's life, Jackson and Riggs have been unable to produce in these animals any recognizable nephritis

Acid-Base Equilibrium of Plasma.—Peters et al. state that there is a general tendency for protein, bicarbonate and chloride to reciprocate in their changes and to aid one another in maintaining the total acid and total base at a constant level

Disturbance of Electrolyte Equilibrium.—It is suggested by Peters et al. that any given disturbance of electrolyte equilibrium will evoke a train of reactions and changes in all the other electrolytes. These reactions always tend to restore equilibrium. The response is not directed toward the maintenance of the concentration of any single constituent or group of constituents, but will be manifested to a greater or less degree in one or the other according as it may best serve to restore the equilibrium and maintain the functional *automatism of the whole organism.*

Thiasine in Blood.—In pig and human blood the thiasine is contained wholly in the corpuscles. Benedict, Newton and Behre have determined the thiasine content of nearly 200 human bloods Results show a thiasine content averaging from 14 to 15 mg. per hundred cubic centimeters of blood for a large group of unselected hospital and ambulatory cases The highest figures have been obtained in diabetic cases, *many of which show from 20 to 27 mg of thiasine per hundred* cubic centimeters of blood In nephritis, on the contrary, the tendency is to normal or unusually low figures.

Comparison of Blood Sugar Tests.—Four different methods of determining blood sugar values have been compared by Duggan and Scott. The Folin-Wu and Hagedorn methods were found to be accurate and fairly precise when used to determine the concentrations of pure glucose solutions *approximating those encountered in blood analysis.* It was found that an increase in the concentration of either the sugar or of the picric acid in the Benedict method would lead to high results, and this is offered as at least a partial explanation of the high results obtained by this method in certain pathologic bloods The Shaffer-Hartmann method was found to be reliable and satisfactory for concentrations above about 25 mg per hundred cubic centimeters of blood. Certain corrections also appear to be *necessary to their table* A substitute table is submitted.

Missouri State Medical Association Journal, St. Louis

23: 43 88 (Feb) 1926

*Radical Treatment of Trigeminal Neuralgia E Sachs, St Louis —p 43
Status Lymphaticus M P Neal, Columbia —p 47.
Management of Fracture of Femur H E Pearse, Kansas City —p 55
Rupture of Uterus During Labor: Case W L Clapper, St Louis —p 59.
Aseptic Technic in Modern Hospital F. B Kyger, Kansas City —p 62
[illegible] and Obstetric Forceps W C Gayler, St Louis —p 63

Radical Treatment of Trigeminal Neuralgia.—In treating trigeminal neuralgia, Sachs has extracted the posterior root of the gasserian ganglion in seventy-one operations, without a death In forty-two cases alcohol injections were given. In the vast majority of cases the patients are satisfied and tremendously pleased with the relief they have obtained. A few find the numbness or paresthesia annoying, but this is so rare that Sachs has no hesitation in recommending this procedure for the treatment of major trigeminal neuralgia

Philippine Islands Medical Association Journal, Manila

6: 1 36 (Jan) 1926

*Tumors from Aberrant Thyroid Tissue P Guazon —p 1
Duality of Yaws and Syphilis P D Gutierrez and P N. Villaseñor, Manila —p 5
*Sodium Citrate as Hemostatic A B M Sison and *P Ignacio —p 11*
Traumatic Rupture of Lungs without External Injury: Its Medicolegal Aspect A Villegas and S de Los Aneles —p 15

Aberrant Thyroid.—Guazon reports a case of aberrant thyroid and two cases of papilloma of the thyroid

Sodium Citrate as Hemostatic.—Sison and Ignacio regard sodium citrate as one of the most powerful and effective hemostatics, especially in arresting inaccessible hemorrhages. They have used from 20 to 30 cc of a 30 per cent sodium citrate solution, previously sterilized, and from 1 to 2 cc. of a 0.5 per cent solution of procaine. Hot water bags must be applied over the place of the injection to minimize the pain and, if need be, some morphine may be administered. While they have given intravenous injections, the intramuscular route is preferred.

Southern Medical Journal, Birmingham

29: 87-156 (Feb.) 1926

*Iodine in Treatment of Hyperthyroidism. H. M. Thomas, Jr., and W. F. Rienhoff, Baltimore.—p. 87.
*Angina Pectoris. J. Philips, Cleveland.—p. 95.
*Gastric Acidity. D. N. Silverman and W. Denis, New Orleans.—p. 100.
*Treatment of Chorea. H. L. Dwyer, Kansas City, Mo.—p. 101.
Club-Hand Associated with Congenital Syphilis. E. C. Schwartz, Fort Worth.—p. 105.
Cholecystography for Ambulatory Patients. S. Moore, St. Louis.—p. 106.
Id. L. P. Gay and S. Moore, St. Louis.—p. 109.
Simple Suction Apparatus. P. W. Flagge, High Point, N. C.—p. 112.
Standardization of State Bureau of Vital Statistics. W. H. Davis, Washington, D. C.—p. 113.
Operative Correction of Facial Palsy. V. P. Blair, St. Louis.—p. 116.
Conservation of Uterus in Surgery of Fibroids. C. J. Miller, New Orleans.—p. 120.
*Muscle Reeducation in Early Treatment of Anterior Poliomyelitis. E. S. Hatch, New Orleans.—p. 123.
*Acute Peritonitis. R. M. Harbin, Rome, Ga.—p. 127.
Inguinal Hernia. R. A. Woolsey, St. Louis.—p. 131.
Obstetric Shock. J. Akerman, Augusta, Ga.—p. 134.
Iniencephalus: Case. J. D. Guess, Greenville, S. C.—p. 136.
Newer Procedures and Methods in Plastic Surgery of Face and Neck. G. B. New, Rochester, Minn.—p. 138.
Trachoma. J. A. Stucky, Lexington, Ky.—p. 140.
Present Day Medical Education. E. R. Clark, Augusta, Ga.—p. 145.

Iodine in Treatment of Hyperthyroidism.—Compound solution of iodine was used by Thomas and Rienhoff in the treatment of thirty cases of exophthalmic goiter. After the patients had received this solution for three or five days, the restlessness and nervousness became less marked, the tremor diminished and in many the skin was less flushed. In most cases the maximum results were obtained in from five to fourteen days. In three cases the maximum result was not obtained until between the twenty-first and twenty-fifth day. The basal metabolic rate decreased in all of the cases, varying from 11 to 72 per cent, an average fall of 34 per cent. In 50 per cent of the cases, the rate was reduced to normal. In 33 per cent of the cases the basal metabolic rate was reduced to below 40 per cent above normal, and in 6 per cent the reduction was so slight that rest in bed alone might account for it. In most instances when the patients were operated on their basal metabolic rate was not more than plus 30 per cent.

Angina Pectoris.—Philip's discussion of angina pectoris is based on a study of the literature and on the personal observation of 179 cases. The clinical history is fully reviewed and treatment is outlined. Philips believes that operative treatment should be limited to that extremely small group of cases in which the paroxysms of anginal pain recur so frequently as to make life unendurable.

Gastric Acidity.—Comparisons made by Silverman and Denis of their colorimetric method with the scientifically accurate electrometric determinations have shown the former to be correct within hundredths of a degree.

Treatment of Chorea.—The results of treatment of sixty-two cases of chorea are described by Dwyer. Magnesium sulphate, in 25 per cent solution, given intramuscularly, has a definite sedative action in the majority of cases. Typhoid vaccine, containing from 20 to 40 million killed typhoid bacilli in each dose, is often beneficial in the long continued mild case or the case in which the most marked symptoms have disappeared and some residual chorea persists. The autoserum therapy has given good results in the few instances in which it was tried. Horse serum, intrathecally, as advocated by Porter, gave good results in a few instances and no results in many others. Chorea serum furnished by Rosenow produced no appreciable benefit. Relieving intracranial pressure by spinal puncture was not found beneficial, although it was not tried in enough patients to give it a fair estimate of its value. Neo-arsphenamine was without any benefit. The use of salicylates is thought to be beneficial only when there is evidence of an active rheumatic infection, and chloral and bromides are often necessary as sedatives in the severe cases.

Muscle Reeducation in Anterior Poliomyelitis.—Hatch avers that muscle reeducation given after all pain and sensitiveness has subsided, and by fully trained associates, is the greatest aid in the treatment of anterior poliomyelitis. Overuse of the weak muscles must be guarded against carefully. The use of as little apparatus as possible is urged.

Treatment of Acute Peritonitis.—For draining the ileum and to introduce fluids into the rectum, Harbin uses an intestinal aspirator of corkscrew shape.

United States Veterans' Bureau Medical Bulletin, Washington, D. C.

2: 103-222 (Feb.) 1926

Certain Phases of Focal Infection Observed in Diagnostic Center. R. S. Morris, Cincinnati.—p. 103.
Improvement in Out-Patient Service: Medical Records. M. M. Davis.—p. 108.
Organization and Administration of Medical Divisions of Regional Offices. W. Adams.—p. 113.
Vocational Aspect of Occupational Therapy. H. G. Kefauver.—p. 118.
True Mystery Story: Case of Impersonation. H. A. Burns, Minneapolis.—p. 133.
Relative Value of Roentgen Ray and Physical Signs in Diagnosis and Treatment of Pulmonary Tuberculosis. L. H. Fales, Livermore, Calif.—p. 140.
Management of Receiving Ward of Tuberculosis Hospital. I. Thomas, Whipple, Ariz.—p. 153.
Hyperthyroidism: Exophthalmic Goiter. D. L. Liberman, Chillicothe, Ohio.—p. 157.
Epilepsy: Diagnosis and Treatment. W. A. Boyd, Perry Point, Md.—p. 165.
Oral Prophylaxis in Hospital for Psychotic. P. O. Fallon, Northampton, Mass.—p. 181.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1: 359-408 (Feb. 27) 1926

Surgical Aspects of Certain Disturbances of Involuntary Nervous System Met with in Alimentary Canal. J. Fraser.—p. 359.
Radiodiathermy in Treatment of Inoperable Malignant Disease of Upper Air and Food Passages. W. Milligan.—p. 364.
Action of Certain Alleged Intestinal Antiseptics. L. P. Garrod.—p. 367.
*Gastric Pain. C. Miller.—p. 369.
*Nephrectomy in Infancy. A. C. Morson.—p. 371.
Bromism: Sodium Chloride Treatment. H. C. Semon.—p. 372
Operative Treatment of Cancer of Colon. C. C. Holman.—p. 373.
Appendix in Hernial Sac. A. J. Pirie.—p. 373.
*Bilateral Renal Aneurysm. F. H. Healy.—p. 374.
*Case of Pernicious Anemia. D. B. Sutton.—p. 374.

Gastric Pain.—Miller says that the visceral pain of indigestion is to be attributed to the condition and the behavior of the muscular wall of the stomach.

Nephrectomy in Infant.—Morson reports a case of nephrectomy for hydronephrosis in an infant, aged 7 months. The kidney was abnormal. It had two ureters, one leaving the kidney at the usual location, the other leaving from the upper pole. There was no communication between the two pelves. The two ureters united just before entering the bladder.

Bilateral Renal Aneurysm.—In the case cited by Healy, aneurysms were found on both renal arteries. The right renal artery was tortuous and presented a firm swelling, the size of a tangerine orange, at the entrance of the hilum. Three swellings, the size of peas, were present on subdivisions of the artery. The left renal artery had tumors in the same position, but on a slightly smaller scale. It was evident that the aneurysmal dilatation of the renal vessels was a sequel to arteriosclerotic changes. Examination of the heart showed marked concentric hypertrophy of the left ventricle, and atheroma of the coronary arteries. The brain showed sclerosis of all arteries, particularly of the basal. Three hemorrhagic sites were present: the oldest, the size of a walnut, in the right internal capsule; the intermediate, the size of a Spanish nut, in the left internal capsule; and the most recent, the size of a walnut, just anterior to the genu of the left internal capsule.

Atypical Pernicious Anemia.—Sutton records a case of pernicious anemia in which the erythrocytes numbered only 300,000 per cubic millimeter; leukocytes, 23,200; hemoglobin, 8 per cent, color index, 1 2 The duration of the disease was only twelve weeks Many of the classic physical signs were not present

1 409 462 (March 6) 1926

Diagnosis by Pyelography R J Willan —p 409
*Splenic Anemia of Young Children Treated by Splenectomy H T Ashby and A H Southam —p 411
*Osteomalacia in Kashmir K Vaughan —p 413
*Use of Lead Colloids in Treatment of Cancer F Coke and J B Cook —p 415
*Surgical Treatment of Tic Douloureux C P Mills —p 417
*Actinomycosis Successfully Treated by Iodine in Milk H Chitty —p 418
Rupture of Aneurysm on Branch of Left Renal Artery, Complicating Pregnancy A L Chisholm —p 419
Experimental Passage of Oocysts of Fish Coccidia Through Human Intestine J G Thompson and A Robertson —p 420
Threatened Gangrene of Arm Due to Injury of Main Artery A Fullerton —p 421
Septicemia Due to B Aertrycke R V Solly and J M Henderson —p 421

Splenectomy for Splenic Anemia in Children —Ashby and Southam draw attention to the possibility of treating cases of splenic anemia in young children by the removal of the spleen and record three cases so treated after medical and roentgen-ray treatment had been found unsatisfactory All the patients have recovered and appear greatly benefited by the operation

Osteomalacia in Kashmir —Vaughan says that osteomalacia is exceedingly common in Kashmir Almost all Kashmir women who have borne children are affected in some degree, with the exception of the boatman class These women live in the open air on large freight boats, work hard and feed with the men They are too poor to cook their food much, and eat raw cucumbers tomatoes, etc, with their rice The worst cases are seen in the houses of the wealthy, who keep their women in seclusion and among those of the poorer classes who do the same Many deaths take place in childbirth owing to conditions consequent on osteomalacia, and as skilled assistance is not available, mother and child are often lost Rickets is not common in Kashmir

Lead Colloids in Treatment of Cancer.—Coke and Cook detail their experiences with lead in the treatment of twenty cases of inoperable cancer One of the preparations used, a very stable colloidal suspension of lead and mercury containing 0 1 per cent each of mercury and lead, has given the best results However, these results were, on the whole, in no wise different from those obtained by others with other forms of treatment—good, bad and indifferent

Treatment of Tic Douloureux —Mills prefers alcohol injections to operation in the treatment of these cases Out of every four cases three patients have been reasonably comfortable with injection and one has needed open operation

Iodine Treatment of Actinomycosis —From 5 to 10 minims of iodine in half a cup of milk, three times a day, has proved ample to effect a cure in the four cases of actinomycosis reported by Chitty

China Medical Journal, Shanghai

40 1 94 (Jan) 1926

*Blood Pressure of Szechwanese Students L G Kilbourn —p 1
Mental Hygiene R M Ros —p 8
Age Height Weight Study of Cantonese School Boys N Keys and W W Cadbury —p 14
Blood Sedimentation Test J R B Branch, L C Pien and P C Fung —p 27
Vaccines and Serums Production in China T F Huang —p 39
*Incidence of Appendicitis in Chinese R M Gibson —p 43
Caudal Anesthesia 166 Cases G Y Char —p 57
*Dermoid Cysts in Young Girls Two Cases L Pendleton —p 63
Differential Diagnosis of Trachoma F Oldt —p 68
*Acute Lymphatic Leukemia in Korea Case W R Cate —p 69
*Mercurochrome in Typhoid in Children B Y S Koo —p 71
Men Nurses in General Hospital N D Gage —p 75

Blood Pressure of Chinese —The blood pressure of over 700 Szechwanese students was taken by Kilbourn The mean systolic and diastolic pressures were lower than the standards for Anglo-Saxons of corresponding ages The pulse pressure, on the other hand, was as high as that of the white races The mean for 741 students was systolic, 111 mm, diastolic, 70 mm, and pulse pressure, 42 mm Systolic and diastolic pressures of nine Canadian and American boys (mean age, 15), born and brought up in Szechwan, were markedly higher than those of the Chinese, but pulse pressure was about the same The mean pressures found were systolic, 120 mm; diastolic, 80 mm, and pulse pressure, 40 mm The records show no marked variation of blood pressure with age, within the limits investigated Systolic and diastolic pressures vary with body weight, but the pulse pressure shows no constant variation

Incidence of Appendicitis Among Chinese.—Of 815 bodies examined by Gibson eighty-one showed no evidence of recent or old inflammation of the appendix, and eight were affected with tubercular disease, secondary to abdominal tuberculosis The appendix is often congested in diseases such as beriberi, dysentery and pneumonia, but these were not included unless other evidence of appendicitis was present The milder types of appendicitis are common among Chinese, but the majority of those do not come to the hospital for treatment Relatively few cases of the suppurative or gangrenous types occur, but in the larger cities most of those are brought to the hospital

Dermoid Cysts in Young Girls —Pendleton's patients were aged 12 and 13 years, respectively In the second case, the ovarian tumor showed no sign of malignancy, nor did the surrounding structures contain any tumors, but in the urethra, at the meatus, was a metastatic tumor which proved to be a carcinomatous dermoid cyst The tumor recurred after removal by the patient's father It grew rapidly Pendleton removed it radically, but inasmuch as the patient disappeared from view no further report of her subsequent condition can be made

Acute Lymphatic Leukemia —This disease is very rare in Korea The chief points of interest in Cate's case were an acute onset and fulminating course, bleeding from the gums, intestines, nose into the skin and finally into the meninges The mucosa of the mouth was gangrenous The lymphocyte count was 320 000, unusually high At the end, violent central nervous system symptoms developed, then coma and death

Use of Mercurochrome in Typhoid —In eight cases of typhoid in children, Koo has injected 1 per cent aqueous solution of mercurochrome intravenously with good result Moderate doses, 0 003 Gm per kilogram of body weight, did not produce any reaction The temperature fell by lysis The drug was seen in the urine, stools and vomitus within a few hours after injection Widal tests became negative within forty eight hours The dose may be repeated, if necessary Koo is convinced that the drug shortens the duration of the disease

Lancet, London

1 377 426 (Feb 20) 1926

Principles of Treatment in Relation to Diseases of Nervous System E F Buzzard —p 377
*Role of Mesentery in Visceral Disorders H T Gray —p 381
Local Sepsis as Factor in Disease G R Murray —p 387
*Treatment of Rodent Ulcer F Hernaman Johnson —p 389
Case of Acute Fatal Medinal Poisoning F Stolland —p 391
*Unexpected Maternal Deaths Occurring During Parturition and Early in Puerperium J St G Wilson and E Glynn —p 392

Rôle of Mesentery in Visceral Disorders —Gray is of the opinion that the mesentery receives too little attention in the study of visceral disease In the health of the gastro-intestinal tract (and in the symptoms of disease of that tract), the mesentery is the first consideration A great part of abdominal surgery should be directed toward the protection from damage of so vital a structure as the mesentery, whether by infection or mechanical trauma In the latter instance, a large group of disorders arise primarily from visceroptosis, whether local or general Treatment in such cases should always be directed toward protection of the mesentery from undue strain

Radiotherapy for Rodent Ulcer. — Hernaman-Johnson regards radiotherapy as the treatment of election for "virgin" rodent ulcers In the case of a recurrence, rays of a different wave length from those originally used should be employed If improvement is not manifest within a month, some method of resensitizing the tissues, as by curettage or ionization, should be resorted to, after which radiation may again be given a trial If the foregoing methods are not producing definite and continuous improvement at the end of two months, the diathermic cautery should be employed. If all recurrences are dealt with promptly, there should be no need for surgery in the ordinary sense of the term. When, however, the recurrence has already assumed large proportions, it may be necessary to invoke the aid of the plastic surgeon to make good what has been destroyed.

Unexpected Maternal Deaths.—Wilson and Glynn report two cases: In one, death occurred during parturition from acute streptococcal septicemia following the induction of premature labor, and in the second case death occurred early in the puerperium due to delayed chloroform poisoning.

1: 427-476 (Feb 27) 1926

Malaria Treatment of General Paralysis of Insane. W Yorke—p 427.
*Operable Carcinoma of Breast Treated by Radium and Roentgen Rays J. H D Webster, J P Thierens and F G. Nicholas—p 431
*Standardization of Tuberculin and Precipitin Test C C. Okell and Others—p 433.
Diagnosis and Treatment of Intrathoracic New Growths L S T. Burrell—p 435
*Case of Rupture of Thoracic Aorta J. H. Sheldon and S C Dyke.—p 436
Diverticulitis and Its Surgical Treatment. J. P. Lockhart Mummery.—p 437
Glycosuria in Acromegaly. K S Hetzel—p. 440.

Radiotherapy of Operable Breast Cancer.—In the series of cases reported by Webster et al., every patient either refused operation, or else age, chronic bronchitis, heart disease, or glycosuria made operation inadvisable. The interim results suggest that such patients should be offered the alternative of radiation treatment more freely than they are at present; at least, they should not be told that there is no alternative to operation.

Standardization of Tuberculin and Precipitin Test.—Okell and six others report on the result of a joint investigation made by them as to whether tuberculins found to be equal (within the error of the test) to standard by the official Frankfort test on guinea-pigs could vary widely in their content of the active principles of "tuberculin," the substance used for the detection of tuberculosis in man and animals. Their findings may be summarized as follows: The precipitation test does not necessarily measure the active principles of tuberculin on which its use in the various methods of diagnosis of tuberculosis depends. Satisfactory agreement in precipitin unit value was obtained by two different groups of workers by the precipitin test. This test apparently measures with a considerable degree of accuracy a substance probably other than the active principle of tuberculin, and presumably the interesting precipitable substance of Mueller and Laidlaw. The "tuberculin" value of tuberculins which have been standardized by the official Frankfort method can not in all cases be deduced from the precipitin test. The results obtained by subcutaneous, intracutaneous, and Pirquet tests on guinea-pigs and by the tests on tuberculous human beings and cows were in agreement. By these three methods a tuberculin of standard strength and two others of values approximately 10 and 5 per cent of standard were placed correctly in order of merit

Rupture of Thoracic Aorta.—In the case cited by Sheldon and Dyke rupture of the aorta occurred through an atheromatous plaque. The patient died nine days after the accident The atheromatous condition of the aorta in this case was apparently a part of the diffuse disease of the intima of the vasculature, which is always associated with "primary chronic interstitial nephritis" Fatty change of the intima of the smaller vessels was a marked feature in microscopic sections of the kidney, and the spleen, the only other organ examined. Syphilis was definitely excluded in this case.

1: 477 530 (March 6) 1926

Experimental Epidemiology W. W. C Topley—p 477.
*Principles of Treatment in Diseases of Nervous System E F. Buzzard—p 484
Gorilla and Man as Contrasted Forms A. Keith—p 490
*Associated Organisms Causing Empyema. H. E. A Boldero and L. E. H Whitby.—p 492.
Encephalitis Following Operations on Temporal Bone J. A Jones—p. 493.

Treatment of Epilepsy, Neurosyphilis and Disseminated Sclerosis.—Buzzard discusses the treatment of epilepsy, syphilis of the nervous system, and disseminated sclerosis, and lays emphasis on two principles which are of outstanding importance if any measure of success is to be attained. The first of these is early diagnosis associated with a frank recognition of the fact that preventive measures must be the mainstay in the struggle against the diseases under review. The second principle is that of taking courage in both hands and, in spite of the public demand for rapid cures, insisting on regulated treatment over long, perhaps indefinitely long, periods of time.

Associated Organisms Causing Empyema.—In the case reported by Boldero and Whitby, two organisms were associated in its production, the one a mycelium and the other a pneumococcus. Alone, neither was pathogenic to guinea-pigs, but in association they always produced lesions Clinically, the striking feature of the case was its chronicity. Probably the start of the empyema can be dated from an attack of pneumonia, which occurred five months before the patient came under observation.

1: 531 584 (March 13) 1926

Experimental Epidemiology W W C Topley—p 531
*Treatment of Malignant Disease with Lead W B Bell and Others—p 537
Functions of Spleen J Barcroft—p 544
Toxicity of Carbon Tetrachloride in Treatment of Ankylostomiasis M Khalil—p 547
*Operative Treatment of Carbuncle A Edmunds—p 548

Treatment of Malignant Disease with Lead.—Bell and his associates report on the results of the treatment of *227* cancer patients with lead They believe that all types of malignant growths are probably amenable to the beneficial influence of lead, provided the metal can reach the malignant cells in sufficient quantity Adjuvant surgical and radiologic measures in suitable circumstances may be employed with considerable advantage When the growth has been partly, or apparently entirely, removed, intravenous injections of lead should be employed within a few days of the operation when possible The method of treatment is difficult, and to some extent dangerous, and can only be employed safely by those who are thoroughly experienced in the work and have laboratory facilities at their disposal

Treatment of Carbuncle.—Edmunds makes a crucial incision, dissects up the flaps, cuts away all suppurating tissue and packs the resulting cavity with cyanide gauze wrung out in 1.40 phenol. Thus, the whole area is opened up to the maximum extent, but with this advantage, four flaps of skin have been left—a little irregular and ragged perhaps—but capable of being replaced in a few days The saving of the skin in no way hinders the drainage, while it accelerates healing very much and diminishes the size of the ultimate scar.

Medical Journal of Australia, Sydney

1: 147-176 (Feb 6) 1926

*Water Snails of Monaro and New South Wales Cercaria Carrying Capacity B Bradley—p 147
Encephalitis. H H Marshall and K Inglis—p 159
*Staining of Intercellular Substance. J. M Petrie—p 163

Snails Carry Flukes.—Bradley found that a certain species of snails (*Limnoca brazieri*) showed a high percentage rate of infestation with fluke embryos, probably carrying several types. He is convinced that this snail is the transmitting agent of the sheep fluke in New South Wales.

Staining of Intercellular Substance.—It has been demonstrated by Petrie that the intercellular material forming the semifluid "ground substance" in certain endothelial tissues can be stained and made visible. This is due to the presence of a potassium compound in the intercellular cement substance Fresh tissue is laid on a slide and treated with cobalt. After a certain time the slide is washed with ice-cold water till the excess of reagent is completely removed If the slide is now examined under the microscope, the intercellular substance is seen to be formed of yellow precipitate, which is the triple salt of cobalt sodium potassium nitrite; when the preparation is subsequently treated with ammonium sulphide, this yellow compound is changed to black cobalt sulphide, which is permanent.

8 per cent; color index, 1.2. The duration of the disease was only twelve weeks. Many of the classic physical signs were not present.

1: 409-462 (March 6) 1926

Diagnosis by Pyelography. R. J. Willan.—p. 409.
*Splenic Anemia of Young Children Treated by Splenectomy. H. T. Ashby and A. H. Southam.—p. 411.
*Osteomalacia in Kashmir. K. Vaughan.—p. 413.
*Use of Lead Colloids in Treatment of Cancer. F. Coke and J. B. Cook.—p. 415.
*Surgical Treatment of Tic Douloureux. C. P. Mills.—p. 417.
*Actinomycosis Successfully Treated by Iodine in Milk. H. Chitty.—p. 418.
Rupture of Aneurysm on Branch of Left Renal Artery, Complicating Pregnancy. A. E. Chisholm.—p. 419.
Experimental Passage of Oocysts of Fish Coccidia Through Human Intestine. J. G. Thompson and A. Robertson.—p. 420.
Threatened Gangrene of Arm Due to Injury of Main Artery. A. Fullerton.—p. 421.
Septicemia Due to B. Aertrycke. R. V. Solly and J. M. Henderson.—p. 421.

Splenectomy for Splenic Anemia in Children.—Ashby and Southam draw attention to the possibility of treating cases of splenic anemia in young children by the removal of the spleen, and record three cases so treated after medical and roentgen-ray treatment had been found unsatisfactory. All the patients have recovered and appear greatly benefited by the operation.

Osteomalacia in Kashmir.—Vaughan says that osteomalacia is exceedingly common in Kashmir. Almost all Kashmir women who have borne children are affected in some degree, with the exception of the boatman class. These women live in the open air on large freight boats, work hard and feed with the men. They are too poor to cook their food much, and eat raw cucumbers, tomatoes, etc., with their rice. The worst cases are seen in the houses of the wealthy, who keep their women in seclusion, and among those of the poorer classes who do the same. Many deaths take place in childbirth owing to conditions consequent on osteomalacia, and as skilled assistance is not available, mother and child are often lost. Rickets is not common in Kashmir.

Lead Colloids in Treatment of Cancer.—Coke and Cook detail their experiences with lead in the treatment of twenty cases of inoperable cancer. One of the preparations used, a very stable colloidal suspension of lead and mercury containing 0.1 per cent each of mercury and lead, has given the best results. However, these results were, on the whole, in no wise different from those obtained by others with other forms of treatment—good, bad and indifferent.

Treatment of Tic Douloureux.—Mills prefers alcohol injections to operation in the treatment of these cases. Out of every four cases, three patients have been reasonably comfortable with injection and one has needed open operation.

Iodine Treatment of Actinomycosis.—From 5 to 10 minims of iodine in half a cup of milk, three times a day, has proved ample to effect a cure in the four cases of actinomycosis reported by Chitty.

China Medical Journal, Shanghai

40: 1-94 (Jan.) 1926

*Blood Pressure of Szechwanese Students. L. G. Kilbourn.—p. 1.
Mental Hygiene. R. M. Ross.—p. 8.
Age-Height-Weight Study of Cantonese School Boys. N. Keys and W. W. Cadbury.—p. 14.
Blood Sedimentation Test. J. R. B. Branch, L. C. Pien and P. C. Tung.—p. 27.
Vaccines and Serums: Production in China. T. F. Huang.—p. 39.
*Incidence of Appendicitis in Chinese. R. M. Gibson.—p. 43.
Caudal Anesthesia: 166 Cases. G. Y. Char.—p. 57.
*Dermoid Cysts in Young Girls: Two Cases. L. Pendleton.—p. 63.
Differential Diagnosis of Trachoma. F. Oldt.—p. 68.
*Acute Lymphatic Leukemia in Korea: Case. W. R. Cate.—p. 69.
*Mercurochrome in Typhoid in Children. B. Y. S. Koo.—p. 71.
Men Nurses in General Hospital. N. D. Gage.—p. 75.

Blood Pressure of Chinese.—The blood pressure of over 700 Szechwanese students was taken by Kilbourn. The mean systolic and diastolic pressures were lower than the standards for Anglo-Saxons of corresponding ages. The pulse pressure, on the other hand, was as high as that of the white races. The mean for 741 students was: systolic, 111 mm.; diastolic, 70 mm., and pulse pressure, 42 mm. Systolic and diastolic pressures of nine Canadian and American boys (mean age, 15), born and brought up in Szechwan, were markedly higher than those of the Chinese, but pulse pressure was about the same. The mean pressures found were: systolic, 120 mm.; diastolic, 80 mm., and pulse pressure, 40 mm. The records show no marked variation of blood pressure with age, within the limits investigated. Systolic and diastolic pressures vary with body weight, but the pulse pressure shows no constant variation.

Incidence of Appendicitis Among Chinese.—Of 815 bodies examined by Gibson eighty-one showed no evidence of recent or old inflammation of the appendix, and eight were affected with tubercular disease, secondary to abdominal tuberculosis. The appendix is often congested in diseases such as beriberi, dysentery and pneumonia, but these were not included unless other evidence of appendicitis was present. The milder types of appendicitis are common among Chinese, but the majority of those do not come to the hospital for treatment. Relatively few cases of the suppurative or gangrenous types occur, but in the larger cities most of those are brought to the hospital.

Dermoid Cysts in Young Girls.—Pendleton's patients were aged 12 and 13 years, respectively. In the second case, the ovarian tumor showed no sign of malignancy, nor did the surrounding structures contain any tumors, but in the urethra, at the meatus, was a metastatic tumor which proved to be a carcinomatous dermoid cyst. The tumor recurred after removal by the patient's father. It grew rapidly. Pendleton removed it radically, but inasmuch as the patient disappeared from view no further report of her subsequent condition can be made.

Acute Lymphatic Leukemia.—This disease is very rare in Korea. The chief points of interest in Cate's case were an acute onset and fulminating course; bleeding from the gums, intestines, nose, into the skin and finally into the meninges. The mucosa of the mouth was gangrenous. The lymphocyte count was 320,000, unusually high. At the end, violent central nervous system symptoms developed, then coma and death.

Use of Mercurochrome in Typhoid.—In eight cases of typhoid in children, Koo has injected 1 per cent aqueous solution of mercurochrome intravenously with good result. Moderate doses, 0.003 Gm. per kilogram of body weight, did not produce any reaction. The temperature fell by lysis. The drug was seen in the urine, stools and vomitus within a few hours after injection. Widal tests became negative within forty-eight hours. The dose may be repeated, if necessary. Koo is convinced that the drug shortens the duration of the disease.

Lancet, London

1: 377-426 (Feb. 20) 1926

Principles of Treatment in Relation to Diseases of Nervous System. E. F. Buzzard.—p. 377.
*Rôle of Mesentery in Visceral Disorders. H. T. Gray.—p. 381.
Focal Sepsis as Factor in Disease. G. R. Murray.—p. 387.
*Treatment of Rodent Ulcer. F. Hernaman-Johnson.—p. 389.
Case of Acute Fatal Medinal Poisoning. E. Stolkind.—p. 391.
*Unexpected Maternal Deaths Occurring During Parturition and Early in Puerperium. J. St. G. Wilson and E. Glynn.—p. 392.

Rôle of Mesentery in Visceral Disorders.—Gray is of the opinion that the mesentery receives too little attention in the study of visceral disease. In the health of the gastrointestinal tract (and in the symptoms of disease of that tract), the mesentery is the first consideration. A great part of abdominal surgery should be directed toward the protection from damage of so vital a structure as the mesentery, whether by infection or mechanical trauma. In the latter instance, a large group of disorders arise primarily from visceroptosis, whether local or general. Treatment in such cases should always be directed toward protection of the mesentery from undue strain.

Radiotherapy for Rodent Ulcer. — Hernaman-Johnson regards radiotherapy as the treatment of election for "virgin" rodent ulcers. In the case of a recurrence, rays of a different wave length from those originally used should be employed. If improvement is not manifest within a month, some method of resensitizing the tissues, as by curettage or ionization, should be resorted to, after which radiation may again be given a trial. If the foregoing methods are not producing definite and continuous improvement at the end of two months, the diathermic cautery should be employed. If all recurrences are dealt with promptly, there should be no need for surgery in the ordinary sense of the term. When, however, the recurrence has already assumed large proportions, it may be necessary to invoke the aid of the plastic surgeon to make good what has been destroyed.

Unexpected Maternal Deaths.—Wilson and Glynn report two cases: In one, death occurred during parturition from acute streptococcal septicemia following the induction of premature labor, and in the second case death occurred early in the puerperium due to delayed chloroform poisoning.

1: 427-476 (Feb. 27) 1926

Malaria Treatment of General Paralysis of Insane. W. Yorke.—p. 427.
*Operable Carcinoma of Breast Treated by Radium and Roentgen Rays. J. H. D. Webster, J. P. Thierens and F. G. Nicholas.—p. 431.
*Standardization of Tuberculin and Precipitin Test. C. C. Okell and Others.—p. 433.
Diagnosis and Treatment of Intrathoracic New Growths. L. S. T. Burrell.—p. 435.
*Case of Rupture of Thoracic Aorta. J. H. Sheldon and S. C. Dyke. —p. 436.
Diverticulitis and Its Surgical Treatment. J. P. Lockhart-Mummery. —p. 437.
Glycosuria in Acromegaly. K. S. Hetzel.—p. 440.

Radiotherapy of Operable Breast Cancer.—In the series of cases reported by Webster et al., every patient either refused operation, or else age, chronic bronchitis, heart disease, or glycosuria made operation inadvisable. The interim results suggest that such patients should be offered the alternative of radiation treatment more freely than they are at present; at least, they should not be told that there is no alternative to operation.

Standardization of Tuberculin and Precipitin Test.—Okell and six others report on the result of a joint investigation made by them as to whether tuberculins found to be equal (within the error of the test) to standard by the official Frankfort test on guinea-pigs could vary widely in their content of the active principles of "tuberculin," the substance used for the detection of tuberculosis in man and animals. Their findings may be summarized as follows: The precipitation test does not necessarily measure the active principles of tuberculin on which its use in the various methods of diagnosis of tuberculosis depends. Satisfactory agreement in precipitin unit value was obtained by two different groups of workers by the precipitin test. This test apparently measures with a considerable degree of accuracy a substance probably other than the active principle of tuberculin, and presumably the interesting precipitable substance of Mueller and Laidlaw. The "tuberculin" value of tuberculins which have been standardized by the official Frankfort method can not in all cases be deduced from the precipitin test. The results obtained by subcutaneous, intracutaneous, and Pirquet tests on guinea-pigs and by the tests on tuberculous human beings and cows were in agreement. By these three methods a tuberculin of standard strength and two others of values approximately 10 and 5 per cent of standard were placed correctly in order of merit.

Rupture of Thoracic Aorta.—In the case cited by Sheldon and Dyke rupture of the aorta occurred through an atheromatous plaque. The patient died nine days after the accident. The atheromatous condition of the aorta in this case was apparently a part of the diffuse disease of the intima of the vasculature, which is always associated with "primary chronic interstitial nephritis." Fatty change of the intima of the smaller vessels was a marked feature in microscopic sections of the kidney, and the spleen, the only other organ examined. Syphilis was definitely excluded in this case.

1: 477-530 (March 6) 1926

Experimental Epidemiology. W. W. C. Topley.—p. 477.
*Principles of Treatment in Diseases of Nervous System. E. F. Buzzard. —p. 484.
Gorilla and Man as Contrasted Forms. A. Keith.—p. 490.
*Associated Organisms Causing Empyema. H. E. A. Boldero and L. E. H. Whitby.—p. 492.
Encephalitis Following Operations on Temporal Bone. J. A. Jones.—p. 493.

Treatment of Epilepsy, Neurosyphilis and Disseminated Sclerosis.—Buzzard discusses the treatment of epilepsy, syphilis of the nervous system, and disseminated sclerosis, and lays emphasis on two principles which are of outstanding importance if any measure of success is to be attained. The first of these is early diagnosis associated with a frank recognition of the fact that preventive measures must be the mainstay in the struggle against the diseases under review. The second principle is that of taking courage in both hands and, in spite of the public demand for rapid cures, insisting on regulated treatment over long, perhaps indefinitely long, periods of time.

Associated Organisms Causing Empyema.—In the case reported by Boldero and Whitby, two organisms were associated in its production; the one a mycelium and the other a pneumococcus. Alone, neither was pathogenic to guinea-pigs, but in association they always produced lesions. Clinically, the striking feature of the case was its chronicity. Probably the start of the empyema can be dated from an attack of pneumonia, which occurred five months before the patient came under observation.

1: 531-584 (March 13) 1926

Experimental Epidemiology. W. W. C. Topley.—p. 531.
*Treatment of Malignant Disease with Lead. W. B. Bell and Others —p. 537.
Functions of Spleen. J. Barcroft.—p. 544.
Toxicity of Carbon Tetrachloride in Treatment of Ankylostomiasis. M. Kjalil.—p. 547.
*Operative Treatment of Carbuncle. A. Edmunds.—p. 548.

Treatment of Malignant Disease with Lead.—Bell and his associates report on the results of the treatment of 227 cancer patients with lead. They believe that all types of malignant growths are probably amenable to the beneficial influence of lead, provided the metal can reach the malignant cells in sufficient quantity. Adjuvant surgical and radiologic measures in suitable circumstances may be employed with considerable advantage. When the growth has been partly, or apparently entirely, removed, intravenous injections of lead should be employed within a few days of the operation when possible. The method of treatment is difficult, and to some extent dangerous, and can only be employed safely by those who are thoroughly experienced in the work and have laboratory facilities at their disposal.

Treatment of Carbuncle.—Edmunds makes a crucial incision, dissects up the flaps, cuts away all suppurating tissue and packs the resulting cavity with cyanide gauze wrung out in 1:40 phenol. Thus, the whole area is opened up to the maximum extent, but with this advantage, four flaps of skin have been left—a little irregular and ragged perhaps—but capable of being replaced in a few days. The saving of the skin in no way hinders the drainage, while it accelerates healing very much and diminishes the size of the ultimate scar.

Medical Journal of Australia, Sydney

1: 147-176 (Feb. 6) 1926

*Water Snails of Monaro and New South Wales: Cercaria Carrying Capacity. B. Bradley.—p. 147.
Encephalitis. H. H. Marshall and K. Inglis.—p. 159.
*Staining of Intercellular Substance. J. M. Petrie.—p. 163.

Snails Carry Flukes.—Bradley found that a certain species of snails (*Limnoca brazicri*) showed a high percentage rate of infestation with fluke embryos, probably carrying several types. He is convinced that this snail is the transmitting agent of the sheep fluke in New South Wales.

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Annales de Médecine, Paris

18: 407-517 (Dec.) 1925

*Functions of the Infundibulotuberal Region. G. Roussy.—p. 407.
*Functional Relations Between the Pituitary Gland and the Tuberal Centers. R. Collin.—p. 428.
*Infundibular Diabetes Insipidus and Tuberal Diabetes Mellitus. J. J. Gournay and A. Le Grand.—p. 434.
*The Share of the Pituitary in Trophic Disturbances in Children. P. Lereboullet.—p. 452.
*Diabetes Insipidus of Syphilitic Origin. L. Babonneix and J. Lhermitte.—p. 471.
*Treatment of Lesions in Infundibulopituitary Region. G. Levy.—p. 479.

Functions of the Infundibulotuberal Region and Its Relations with the Pituitary.—This entire issue of the *Annales* is devoted to tuberal syndromes. A full summary was given in the Paris Letter in The Journal, March 27, 1926, p. 964. Lereboullet emphasizes that the trophic disturbances in the bones are the most solidly established facts to date for which the pituitary can be incriminated. In the adiposogenital syndromes, and obesity of alleged pituitary origin, pathologic conditions in the hypothalamus probably cooperate more or less extensively. Diabetes insipidus in a woman who had died from cancer of the pleura and lung was explained by syphilitic changes involving the infundibulum, tuber cinereum and the stalk of the pituitary, while the pituitary itself was intact. The lesions thus were not glandular but in the nervous apparatus. Levy discusses treatment of lesions in this region; organotherapy is a useful adjuvant, but treatment as for syphilis should always be given a thorough trial, she insists, under ophthalmoscopic control. The latter should be the guide also for surgical measures or radiotherapy, and extreme caution should be the watchword. The condition of the optic nerve is the criterion.

Archives des Maladies du Cœur, etc., Paris

18: 753-832 (Dec.) 1925

Intraventricular Conductibility and the Electrocardiogram. C. Pezzi.—p. 753.
Angina Pectoris from Projectile. E. Doumer.—p. 766.
*Heart Derangement in an Athlete. P. Meyer.—p. 772.

Functional Heart Block in Trained Athlete.—Meyer reports a case of this kind in a medical student devoted to out-of-door sports, especially skiing. He had taken part in several contests. He had never noted any signs of heart disturbance during strict physical training, and the consecutive fatigue. Nothing abnormal was revealed on clinical and roentgen-ray exploration of the heart. Nevertheless electrocardiograms showed retarded auriculoventricular conduction, the conduction time being almost twice as long as normal. Under the effect of exercises and atropine, the heart block disappeared entirely, thus testifying to the functional nature of the changes of rhythm. Evidently the heart disorder was caused only by physical strain, similar to another phenomenon noted in athletes, namely, nodal bradycardia.

19: 1-64 (Jan.) 1926

Role of Intracardiac Pressure in Bradycardia. L. Bard.—p. 1.
*Arterial Pressure After Ramisection. R. Leriche and R. Fontaine.—p. 21.
Paroxysmal Tachycardia and Arrhythmia. Gallavardin and Veil.—p. 30.
*Heart Symptoms in Case of Febrile Rheumatism. E. Doumer.—p. 33.
Hemohistioblasts in Myeloid Leukemia. J. Sabrazes.—p. 38.

Changes of Arterial Pressure After Ramisection.—Leriche and Fontaine observed a change in the arterial pressure after ramisection in fifteen cases in the last year. The operation consisted in severing the rami communicantes of the stellate ganglion and intermediary ganglion (when there was one). A transient increase of arterial tension appeared only on the operated side, and was soon followed by hypotension. On the other hand, there was always considerable rise of the oscillometer index on both sides, reaching its maximum in one or two days, and persisting for a few days. These phenomena can be explained only by the existence of centripetal nerves in the vascular adventitia—real pressor nerves controlling the arterial tension. Stimulation of them causes hypertension; severing them induces hypotension. The occurrence of vasomotor reflexes on both sides is probably due to the existence of only one vasomotor center in the medulla oblongata. The return of the arterial tension to normal, within a certain time after the operation, may be ascribed to the fact that the vascular tonus is thereafter regulated only by the centripetal fibers of the intact side.

Multiple Heart Disturbances in Acute Articular Rheumatism.—Doumer reports a case of febrile rheumatism associated with nodal bradycardia, retarded auriculoventricular conduction and auricular extrasystoles. The peculiar changes of the heart rhythm suggested that the interstitial nodules of the rheumatic myocarditis had affected the nerves of the heart more than the myocardium itself.

Bulletin de l'Académie de Médecine, Paris

95: 175-188 (Feb. 23) 1926

*Cancer a Hundred Years Ago. P. Menetrier.—p. 177.
*Artificial Immunization Against Tuberculosis. A. Calmette et al.—p. 182.

Cancer at Paris in 1826.—Menetrier compared the hospital cancer records at Paris and in Switzerland in the first quarter of the last century with those of the current year, and was amazed to find the average about the same: 14 per cent of all deaths over the age of 15 in 1825, and 10-12 per cent of all deaths in his Paris hospital service in recent years.

Vaccination of the New-Born Against Tuberculosis with BCG.—Ninety-four Paris infants inoculated with BCG vaccine in 1921-1922 were under supervision in 1925. Calmette and his co-workers state that all are healthy and developing normally, although seventeen of them were born and raised by tuberculous mothers. In the whole of France about 5,183 new-born infants were inoculated with BCG emulsion in the last six months of 1924. Of 1,317 infants supervised for six to eighteen months, 586 were exposed to tuberculous contamination. Among them, 7.2 per cent have died from nontuberculous diseases, and 1.8 per cent from presumed tuberculosis. While the minimal mortality among nonvaccinated infants exposed to contamination, during the first year of life, is at least 25 per cent, certain French statistics show a mortality of 32.6 per cent or more. Of 117 infants inoculated with BCG vaccine in Belgium, ninety-two have been under regular observation. None of them have died from a presumed tuberculous affection, although forty-six were born and remained in a tuberculous environment. In French Indo-China, 3,352 native new-born infants were inoculated; and in French occidental Africa, 218. All are perfectly healthy. It appears that immunity from this vaccine, as revealed by the resistance to reinfection, lasts over three years. Five years' experience has demonstrated that inoculation with BCG vaccine is harmless, they say, and they advise its use as a prophylactic measure, especially in families in which the new-born are exposed to contagion. They reiterate that it must be applied within the first ten days of life. (This method of vaccination against tuberculosis with living bacilli was described in an editorial, Feb. 27, 1926, p. 626. It was also mentioned later, March 6, page 724.)

Comptes Rendus de la Société de Biologie, Paris

94: 97-168 (Jan. 22) 1926. Partial Index

*Herpes Zoster and Chickenpox. A. Netter and A. Urbain.—p. 98.
Cholesteremia in Mental Disease. H. Claude et al.—p. 102.
*Mixed Vaccines. G. Ramon and C. Zoeller.—p. 106.
The Blood in Rabbit Encephalitis. Remlinger and Bailly.—p. 112.
Etiology of Vaccination Encephalitis. Levaditi and Nicolau.—p. 114.
*Chloroform Sensitization. E. Bardier and A. Stillmunkes.—p. 118.
*The Acid Base Balance in Epilepsy. L. Dautrebande.—p. 133.
Action of Ozone on Diphtheria Toxin. P. Nelis.—p. 139.
The Insulin and Phosphorus of Milk. I. I. Nitzescu.—p. 156.
*Influence of Drugs on Metabolism. Papilian and Bendescu.—p. 158.
*Action of Vagus in Hyperglycemia. Papilian and Funariu.—p. 159.

Relations Between Herpes Zoster and Chickenpox.—Netter and Urbain examined the serum of 100 subjects with herpes zoster and twenty-four with chickenpox, using the crusts for antigen. The crossed and homologous complement fixation tests were positive in 93 per cent in herpes zoster; and in 91.7 per cent in chickenpox. The amount of antibodies was minimal the first days of the eruption, maximal within the second week, but they persisted sometimes for as long as eighteen months. Crusts of chickenpox and of herpes were used in cases with herpes or chickenpox; or either of the crusts alone. The behavior of the antigen and antibodies was identical in all. Six cases of herpes zoster seemed to be responsible for development of chickenpox in persons who had been in contact with them. In two instances, zoster developed in a chickenpox focus. In eight cases, herpes zoster accompanied chickenpox. It seems that the chickenpox virus inducing herpes has passed through a kind of mutation, analogous to that of the smallpox virus in relation to vaccinia. Owing to the mutation, it acquires certain properties. Thus in herpes the virus is more resistant than in chickenpox. While in chickenpox the virus disappears rapidly, in herpes it may persist inactive for a long time. Then, under the influence of various causes as, for instance, arsenical poisoning, the herpes virus may regain its activity and induce the zoster eruption.

The "Associated Vaccines."—Ramon and Zoeller injected 1 cc. of TAB vaccine—a mixture of typhoid and paratyphoid A and B vaccines—with 0.5 cc. of diphtheria anatoxin for the first injection, and with 1 cc. for the second, eighteen days later. Tests were made in subjects with a positive or negative Schick reaction. The results showed that addition of TAB vaccine does not affect the formation of diphtheria antitoxin in the blood serum. The same was evident with injections of TAB vaccine plus tetanus anatoxin. First 2 cc., and then 2.5 cc. of the associated vaccines were injected, with a fifteen days' interval; a third injection (1 cc.) was given eight days later. Then 1 cc. of the serum from these subjects neutralized from 1,000 to 3,000 lethal doses, and even more. No impairment in formation of tetanus antitoxin was noted from association of tetanus anatoxin with the diphtheria anatoxin. Ramon and Zoeller say that these experiences seem to open the field for simplified procedures in vaccination.

Chloroform Sensitization of Medulla for Cocaine.—Intravenous injections of cocaine were made in dogs, under chloroform. It was evident, Bardier and Stillmunkès say, that the chloroform had enhanced the susceptibility of the bulbar centers to the cocaine.

Acid-Base Balance of the Blood in Epilepsy.—Dautrebande's research seems to confirm the presence of an alkaline substance in the blood in epileptics. It has no affinity for carbon dioxide in vivo. This agrees with Bisgaard, Jarloev and Noervig's findings; they also noted in epilepsy the presence of an abnormal product of metabolism, giving an alkaline reaction.

Influence of Epinephrine, Atropine and Pilocarpine on Metabolism.—Papilian and Bendescu's observations were made on patients with mild eye diseases. They emphasize that epinephrine exaggerates the basal metabolism, while atropine checks it. Therefore stimulations of the sympathetic and parasympathetic system may only increase the basal metabolism.

Action of Vagus in Hyperglycemia.—Papilian and Funariu conducted experiments on dogs. Severing the vagus nerves prevented the appearance of glycemia from epinephrine and pilocarpine. Evidently the vagus may be partly responsible for an increase of sugar in the blood.

Journal de Chirurgie, Paris

26: 593-699 (Dec.) 1925

Treatment of Hydatid Cysts of the Liver That Have Opened into the Biliary Passages. F. Dévé.—p. 593.

27: 1-112 (*Jan.*) *1926*

*Primary Tumors of Bones. P. A. Huet.—p. 1.
*Cancer of Undescended Testicle. L. Aurousseau.—p. 17.

Treatment of Primary Tumors of Bones.—Analysis of the ultimate outcome in thirty cases testifies that conservative measures, including resection, should be the rule for benign tumors in bones (chondromas, myeloplax or fibroid tumors and fibrocystic osteitis). Malignant tumors in bone call for amputation, and the criterion for the malignancy is not local recurrence—this may occur with a benign tumor—but metastasis at a distance, reproducing the structure of the primary tumor. If amputation is refused, the radiologist should be called in. Huet adds that the results from radiology cannot be worse than those from conservative measures for cancer of the bone.

Cancer of the Undescended Testicle.—Aurousseau summarizes seventy-six cases on record. He calculates that 10 per cent of cancers of the testicle affect the ectopic organ while there is only one testicle out of a thousand that is not in the scrotum. The ages ranged from 17 to 52. Only forty-four were given thorough operative treatment. Of the nineteen cases in which the ultimate outcome is known, there was recurrence in ten, but nine were known to be in good health from three months to eleven years later. In seventeen cases the cancer was discovered only at necropsy.

Journal d'Urologie, Paris

20: 353-448 (Nov.) 1925

*Resection for Gonorrheal Stricture. P. Bazy.—p. 353.
Nonradiopaque Bladder Calculi. P. Bazy.—p. 369.
Pyelonephritis After Prostatectomy. Gayet and Peycelon.—p. 371.
*Rupture of the Bladder During Cystoradiography. J. Rejsek.—p. 382.
*Urologic Congress Proceedings.—p. 388.

Resection of Perineum for Urethral Stenosis.—Bazy refers to Horteloup's method for treating gonorrheal strictures in cases with complications. The technic is generally known as the Albarran-Heitz-Boyer procedure. He describes its successful application in an extremely complicated case of long standing, and reviews forty-six analogous nontuberculous cases treated by various operative measures. The main point is to remove all the pathologic tissues, not leaving a trace of fibroid tissue, as sclerosis testifies to infection. Even the most attenuated infection is liable to be roused to virulence by the operation, and hence all sclerotic tissue must be eradicated. Simple edema of course should be respected; the swelling subsides after removal of all infected tissue. He sutured around the retention catheter, without preliminary diversion of the urine. On the other hand, he usually diverts the urine in treating traumatic strictures, when there is a prospect of suturing the stumps of the urethra smoothly together.

Rupture of the Bladder During Roentgen Examination.—Rejsek injected 120 cc. of the contrast suspension into the bladder of a robust man, aged 68, who had complained of bladder symptoms only for three months. The injection was made gently and was followed by an intense contraction of the bladder, but the severe pains persisted only for a short time after evacuation of the bladder. The roentgenogram revealed that the bladder had ruptured in the reaction to the injection. The opaque fluid formed a crescent above the bladder, but there was no extravasation of blood, and no trace of the rupture could be found in the bladder although considerable urine had escaped into the surrounding tissues. This was wiped out and the patient dismissed in two weeks. He succumbed to acute pneumonia not long after.

Urologic Congress.—The topic appointed for discussion was high diversion of the urine.

Presse Médicale, Paris

34: 209-224 (Feb. 17) 1926

*Tuberculous Serositis. N. Fiessinger and A. Lemaire.—p. 209.
Mechanism of the Heart Rhythm. E. Donzelot.—p. 211.
Postpartum *Inversion of the Uterus.* J. Sarf.—p. 212.
Some Diuretics. P. Pagniez.—p. 213.
Malaria in Syria. A. Gemayel.—p. 219.

Lipiodol in Diagnosis and Treatment of Tuberculous Serositis.—Direct injections of iodized oil were made by Fiessinger and Lemaire in five cases of hydropneumothorax, one of pyopneumothorax, one of purulent pericarditis, and one of tuberculous peritonitis with hypertrophy of the liver. They used light and heavy lipiodol (0.11 and 0.44 Gm. of iodine per cubic centimeter). First 5 cc. of the light was injected, then 5 cc. of the heavy. The injection was sometimes repeated three or four times, at fifteen or twenty days intervals. The roentgenograms showed then exactly the location of the effusion and its volume. The injections were valuable in diagnosis of interlobular or intrapulmonary effusions. No results were obtained in large pleural effusions; but a medium serofibrinous pleuritis and a small hydropneumothorax of the phrenicocostal sinus soon disappeared after the lipiodol injection. The latter corrected also the diagnosis, which had escaped the roentgen ray and puncture. Remarkable results were noted in a case of tuberculous pericarditis; three injections of lipiodol induced considerable improvement of heart weakness, subsidence of dyspnea, and resorption of the effusion. A second injection on recurrence was followed by a similar effect, postponing the inevitably fatal outcome. The method is contraindicated in progressing tuberculosis, in which lipiodol seems to favor the spread of the lesions.

34: 273-288 (March 3) 1926

Tuberculosis of Middle Lobe of Right Lung. Sergent and Oury.—p. 273.
*Latent Syphilis and Pregnancy. E. Bertin.—p. 278.
Medical Impressions of Three Years in Paraguay. C. André.—p. 283.

Latent Syphilis and Pregnancy.—Bertin discusses the reactivation of latent syphilitic infection under the influence of a pregnancy. The latent syphilis is graver for the fetus than for the mother. Under successive abortions the infection may become attenuated. The Wassermann test, previously negative, may become positive during pregnancy, and again negative after childbirth. Localization of the spirochetes in the pelvic organs during pregnancy may induce a relative immunity. Thus may be explained the gradual attenuation of syphilitic infection, evident in repeated pregnancies. After a series of abortions, the women frequently give birth to fully developed infants with only slight traces of congenital syphilis. This may occur even if the women are not treated.

Revue Française d'Endocrinologie, Paris

3: 277-364, 1925

Histologic Relations Between the Pituitary and the Interbrain Centers. R Collin.—p. 277.
Various Mechanisms of Regeneration of Thyroid Follicles in Adult Guinea-Pig. P. Florentin.—p. 284.
Histology of Tuber Cinereum and Nuclei of the Base in Operative Suprarenal Insufficiency. Urechia and Mihalescu.—p. 296.
Influence of Endocrine Secretions on Sprouting of Hairs. Schereschewsky.—p. 301.

3: 365-463, 1925

Internal Secretion of the Ovary and Ovarian Organotherapy. H. Vignes.—p. 365.
Evolution of Grafted Tissues and of Glands with Outlet Blocked. E. Retterer.—p. 380.
*Eunuchoid Adiposogenital Dystrophy. N. Schereschewsky.—p. 395.
*Ovarian Insufficiency, Melanoderma and Mental Disturbance. E. Bonilla.—p. 408.

Eunuchoid Adiposogenital Dystrophy.—A case is described in detail which combines various features of the Frölich type and of the eunuchoid type of adiposogenital dystrophy. The latter seems to be always a pluriglandular affection; in this case a severe infectious disease at the age of 8 (severe headache predominating in the clinical picture) was evidently a factor in the nondevelopment of the gonads. Before that the child had been apparently normal in every respect. Implanting of a testicle from another man (undescended testicle) at the age of 22 has failed to modify the condition in any way during the eight months to date.

Ovarian Insufficiency, Bronzing and Psychic Disturbances.—Bonilla has encountered eight cases of the syndrome described by Block in 1916, and he discusses melanoderma in general as connected with the endocrines and with sexual development. In the Block syndrome, the bronzing is undoubtedly the result of ovarian insufficiency without participation of the suprarenals. The ages ranged from 28 to 52, and there was in all a history of grave infectious disease or loss of property or unfortunate love affair or conjugal discord. The husband of one was impotent. None of the women had had for years or ever a normal sexual life, and Bonilla is inclined to accept a tendency to a premature menopause in some of the women. He remarks that the sexual function is one of the best stimulants of the genital internal secretions; it acts as a kind of auto-organotherapy. Hyperthyroidism was noted in only one of these patients, but ovarian insufficiency was pronounced in every case. In one, an injection of epinephrine induced an intense reaction, but Marañon has demonstrated that this is not pathognomonic for hyperthyroidism. The blood pressure and the cholesterol and glucose content of the blood testified against suprarenal involvement. Under ovarian treatment marked improvement was almost constantly realized; the pigmentation retrogressed more or less and the nervous symptoms subsided. He combined belladonna or thyroid treatment with the ovarian extract in some cases.

Revue Française de Pédiatrie, Paris

1: 529-656 (Nov.) 1925

*Weakness in Power to Grow. Murk Jansen.—p. 529.
*Infectious Jaundice. W. Mikulowski.—p. 576.
A Case of Cyclocephalus. J. Festal and Lieutaud.—p. 590.
Case of Calciuria ("Phosphaturia"). Rohmer and Corcan.—p. 598.
Therapeutics and Pharmacology of Last Two Years. M. LeLong.—p. 603.
Recent Works on Surgery in Children. H. L. Rocher.—p. 625.

Weakness in Power to Grow and Congenital Dwarfism.—Jansen asserts that when growth does not proceed normally, this is due to deleterious influences affecting the growing tissues, impairing their growing power, and that the degree of checking of the growth is determined by the rate at which the tissue was growing. This is the law of the vulnerability of cells that are growing rapidly. He explains how these principles throw light on the connection between rickets, achrondroplasia and other disturbances. What he calls weakness of growth entails excessive sensitiveness and readiness to fatigue. It appears first in muscles, as the muscles grow most rapidly at first. In the bones, the more rapidly growing parts are affected first. He gives photographs of a number of large families showing the effect on the growth of the children, of different injurious influences to which they were subjected at different ages. Unusually tall adolescents, children with genua valga, rickets, marasmus or pedatrophia represent the four main degrees of weakness of growth. In the mildest form it induces merely exceptional sensitiveness, so that growth is stimulated to excess. The male glands are especially sensitive; Jansen suggests that tobacco poisoning in the father may influence the growth of children born later.

Infectious Jaundice.—Mikulowski relates that in the last quarter of 1924 he encountered thirty-four cases of infectious jaundice in children at Warsaw. The onset was abrupt, with high fever, and the liver was large and painful in 80 per cent. The jaundice persisted for a week to a month but the course was mild on the whole. Contagion was evident.

Revue Médicale de la Suisse Romande, Geneva

45: 857-935 (Dec. 25) 1925

Paresthetic Meralgia. E. Long and J. J. Mozer.—p. 857.
Sporadic Hemophilia. R. Feissly and H. Curchod.—p. 868.
Treatment of Acne in Adolescents. C. Dubois.—p. 879.
Rare Complications of Appendicitis. H. Vulliet.—p. 889.
*Local Immunity in Mumps. A. Cramer.—p. 893.
Hypertension and Medication to Correct It. S. Katzenelbogen.—p. 897.

Local Immunity in Mumps.—Cramer treated a case of mumps localized exclusively in the sublingual glands. The boy, aged 16, had had mumps three years before, involving the parotid and submaxillary glands and accompanied by orchitis. Apparently these glands, vaccinated by the first attack of mumps, were refractory to the second infection. As the parotids and submaxillaries were thus immune, the mumps virus attacked the sublingual glands which it usually invades only exceptionally. Cramer considers this case as a demonstration of local immunity, induced by direct contact of the virus with receptive cells of the glands.

46: 1-64 (Jan. 25) 1926

Origin of Tumors. M. Marullaz.—p. 1.
Exclusion of the Appendix. P. Decker.—p. 31.
*Pathogenesis of Wilson's Disease. I. Mahaim.—p. 43.
The "Odor of Sanctity" and Brain Tumor. A. Repond.—p. 49.
Present Status of Prophylactic Serotherapy of Measles and Whooping Cough. P. Gautier.—p. 52.

Pathogenesis of Hepatolenticular Disease.—Mahaim created a biliary fistula in dogs and then injected alcohol in the biliary ducts, thus attacking directly the hepatic cells. Two of the animals died thirty-one and seventy-nine days later, with symptoms of progressive jaundice. Histologic examination revealed generalized lesions of brain cells, in the cortex as well as in the central nuclei. There were moreover vascular and neuroglia lesions confined exclusively to the central nuclei. The excessive fragility of these vessels and necrosis of the central nuclei suggest that the brain is not affected first in Wilson's disease, but secondarily to the liver. The vessels of the gray substance seem to be peculiarly susceptible to the still unknown, but probably different agents, and this may be responsible for the lesions in pseudosclerosis, parkinsonism, possibly also in chorea, Parkinson's disease and the lesions recently described by Steck.

Schweizerische medizinische Wochenschrift, Basel

56: 169-192 (Feb. 27) 1926

*Exploratory Excision in Cancer. F. Ludwig.—p. 169.
*Irradiated Milk. A. Hottinger.—p. 170.
Action of Mineral Waters. W. Singer.—p. 176.
Genital Tuberculosis and Sterility. P. Crevoisier.—p. 179.

Exploratory Excision in Cancer.—Ludwig regards the exploratory excision or curettement in carcinoma patients as exceedingly dangerous. He explains by this the generalization of apparently radically removed small tumors. Even the introduction of radium needles into the tumor is dangerous. Only in doubtful cases, and only when everything is ready for the operation, is exploratory excision permissible.

Irradiated Milk.—Hottinger confirms the antirachitic qualities of milk (human or cow's) irradiated with ultraviolet rays. The concomitant anemia is not influenced as long as the children are overfed with milk.

Rivista di Clinica Pediatrica, Florence

24: 73-144 (Feb. 20) 1926

Kala-Azar. P. Barbacci.—p. 73.
*The Blood with Tuberculous Bone Lesions. A. Muggia.—p. 89.
Laws on Maternity and Infant Welfare. G. Francioni.—p. 98.

The Blood Changes with Tuberculous Bone Lesions.—Muggia found in the blood of children suffering from tuberculosis of bones slight changes of the potassium and magnesium content. The sodium was slightly and the calcium strongly increased. With grave destruction of bone tissue, the calcium level was almost twice as high as normal.

Archiv für Gynäkologie, Berlin

127: 293-742 (Feb. 3) 1926

*Biology of the New-Born. K. Hellmuth.—p. 293.
*Trichomonas Vaginalis. A. L. Schmid and H. Kamniker.—p. 362.
Movements of Fallopian Tube. F. Kok.—p. 384.
Ovary Tumors in Children. G. Termeer.—p. 431.
Unusual Ectopic Pregnancies. C. Schoenhof.—p. 463.
Menorrhagia. A. Heyn.—p. 496.
Sedimentation Test in Cancer. Guthmann and Schneider.—p. 515.
Forceps Deliveries. E. Klaften and L. Bodnar.—p. 528.
Ectopic Endometrium. W. Schiller.—p. 544.
*Cause of Tubal Pregnancy. L. Schoenholz.—p. 609.
The Blood and Prognosis of Cancer. E. Holl.—p. 708.
*Acetonuria in Pregnancy. H. Kleesattel.—p. 717.
Blood Colloids in Sepsis. A. Tóth.—p. 729.

Biology of the New-Born.—Hellmuth investigated the lipoids of the serum and of the erythrocytes in pregnancies and in the new-born. Cholesterol and its esters, lecithin and fatty acids of the serum increase in pregnancy. Cholesterol esters occurred in the erythrocytes in twelve of thirty pregnant women. The toxemia of pregnancy had no characteristic influence. He found—contrary to others—esters of cholesterol in every specimen of blood taken from the umbilical vein. The infant has the maximum concentration in lipoids in the whole blood, the mother in the serum.

Trichomonas Vaginalis.—Schmid and Kamniker consider the trichomonas as pathogenic. A yellow discharge and considerable itching are the clinical symptoms. Lavage with a 0.1 per cent solution of mercuric chloride, followed by drying of the vagina and swabbing it with cotton dipped in 10 per cent borax-glycerol, is recommended. This treatment is repeated every other day for one week and twice in the second week. Vaginal suppositories containing 2 Gm. of 10 per cent borax-glycerol are introduced on the days without lavage.

Cause of Tubal Pregnancy.—Schoenholz concludes from his investigations that previous inflammation of the tube is seldom responsible for tubal embedding of the ovum. In most of the cases it is due to diverticula, in some to loosemeshed folds in the mucous membrane, and in some, perhaps, to the presence of cytogenic tissue in the tube.

Acetonuria in Pregnancy.—Kleesattel finds that pregnant women need more carbohydrates for utilization of fat than other subjects. He attributes this to a change of liver function, due to the endocrine action of the placenta and corpus luteum. He advises restriction of fat and proteins in the diet, especially in toxicoses.

Deutsche medizinische Wochenschrift, Berlin

52: 307-348 (Feb. 19) 1926

*Vaccine Therapy. H. Finkelstein.—p. 307.
*The Female Sex Hormone. III. S. Loewe et al.—p. 310.
Malaria Treatment of General Paresis. E. Meyer.—p. 313.
*Haff Disease. Scholz.—p. 314.
*Oygen Inhalation in High Altitudes. E. Stern.—p. 316.
*Reticulo-Endothelium and Poisons. Händel and Rosenzuaig.—p. 320.
Intended Suicide Indication for Abortion. H. Küstner.—p. 322.
Hysterical Paralysis of the Uvula. G. Boenninghaus.—p. 322.
Fracture of Os Pisiforme. A. Engel.—p. 323.
Diathermy in Intermittent Claudication. Determann.—p. 323.
Obstetric Speculum. Kritzler.—p. 325.
Station for Infectious Diseases. Schmoeger.—p. 327.
Social Hygiene. E. G. Dresel.—p. 328.
Vitamins. E. Nassau.—p. 342.

Vaccine Therapy.—Finkelstein discusses the question of vaccine treatment in children. He is quite skeptical: "An injection of vaccine the day before the crisis happens to arrive gives excellent results in lobar pneumonia." He quotes a few papers showing lack of autocriticism. In spite of this, he has seen good results in infections which possess a tendency to spontaneous healing. Gonococcus arthritis and conjunctivitis, and certain cases of acute pyodermia are suitable for it. He injects 500 millions of colon bacilli intramuscularly, and increases the dose rapidly if it fails to produce a local or general reaction. He saw a few surprising results with intravenous injections in typhoid, but a grave collapse observed in one of the successful cases caused him to discontinue the intravenous method. Children—except the tuberculous—usually stand more vaccine than adults. He strictly denies the value of vaccine treatment in pneumonia and whooping cough, and doubts it in pyelitis.

Female Sex Hormone.—Loewe, Lange and Faure state that when administering the female sex hormone by mouth to castrated animals, twenty-fold larger doses were required than with subcutaneous injections. Without regard to the species, the dose required was, so far, proportional to the weight of the animals tested.

Haff Disease.—The opinion of the faculty members of the University of Königsberg, published in this report, is opposed to the theory of direct poisoning with volatile arsenical compounds. Some of them believe that eels caught at a certain place were toxic. The mud taken from the spot induced a similar disease in young cats.

Oxygen Inhalation in High Altitudes.—Stern found in healthy and tuberculous subjects a tremor when they came to high altitudes. Administration of oxygen reduced it. The time of reaction to auditory stimuli is prolonged at the high altitudes. Oxygen shortened it in health. In some of the tuberculous subjects, oxygen prolonged it. The hardness of the muscles increased with high altitudes. After inhalation of oxygen, it increased further in the healthy but decreased in many tuberculous patients.

The Reticulo-Endothelial System and Poisons.—Händel and Rosenzuaig removed the spleen in some mice, and supplemented this in others with intravenous injection of colloidal iron oxide. These animals reacted to strychnine and quinine practically no more than the controls. With injections of cocaine, the splenectomized mice—especially those with splenectomy plus blocking of the reticulo-endothelium apparatus—reacted much more severely than the controls.

Wiener klinische Wochenschrift, Vienna

39: 205-232 (Feb. 18) 1926

Water Metabolism. W. Falta.—p. 205. C'td.
*Complications in Prostatectomy. O. Schwarz.—p. 209.
*Chemotherapy of Infections. P. Saxl et al.—p. 211.
*Athletic Sports, the Heart and the Action of Drugs. E. Kauf.—p. 212.
Changes of Immunology. W. Böhme.—p 215. C'tn.
"Children Who Won't Eat." K. Peyrer.—p. 217.
Sequels of Constipation. O. Porges.—p. 218
Research on Zoster. B. Lipschütz. Supplement.—pp. 1-16.

Complications in Prostatectomy.—Schwarz emphasizes the importance of preparation for prostatectomy—especially of a preliminary suprapubic fistula. He waits until the kidney function improves.

Chemotherapy of Infections.—Saxl, Donath and Kelen were able to protect rabbits against an otherwise lethal staphylococcus infection by preliminary intravenous injections of acriflavine or other drugs, or by oral administration of acriflavine or scarlet red

Athletic Sports, the Heart and the Action of Drugs.—Kauf found that subcutaneous injection of 1 mg. of atropine does not increase the pulse frequency in persons taking part in various sports The pulse reaction to epinephrine was normal. He concludes that the vagus-accelerans equilibrium is shifted toward the vagus side by its preponderance.

Zentralblatt für Gynäkologie, Leipzig

50: 449 512 (Feb 20) 1926

Delineation of Child's Skull G Schwarz —p 450.
Intra Uterine Injury of Arms K Fink —p 455.
*Pulse Volume in Labor W Haupt —p 458
Obstetric Maneuvers H Jentter —p 461
Forceps and Mortality St v Thurn Rumbach —p 462.
Postpartum Hemorrhages K Atzerodt —p 465
*Compression of Abdominal Aorta H O Neumann —p 469.
Late Puerperal Hemorrhages E Klaften —p 474
Missed Abortion and Labor E Kahn —p 479
Vaginal Myomas D Tuberowsky —p 483

Pulse Volume in Labor.—Haupt found usually a higher pulse volume immediately after a labor pain than later. It was especially higher than the volume during the pain.

Compression of Abdominal Aorta.—Neumann observed grave intestinal disturbances after application of the—as a rule—harmless Haselhorst compressorium to the aorta for fifteen minutes

Mediko-Biologitchesky Jurnal, Moscow

3: 3 110, 1925

The Biochemical Factors of Sex Determination G Pighini —p. 3.
Capillary Pulse in Aortic Insufficiency A Nesteroff.—p 27
The Multiple Phases of Hormone Action V Kogan et al —p 43.
The Blood Calcium in Endocrine Insufficiency L Perelman —p 52
Study of Glycolysis in the Blood N Medvedeva —p 62
*Vegetative System and Carbohydrate Metabolism N Mirtovsky —p 76
Nerve Activity in Man and Dog A Ivanoff Smolensky —p 84
Functional Liver Disorder in the Insane E Lokshina —p 95

Influence of the Vegetative Nervous System on Carbo- rate Metabolism.—Mirtovsky's experiments were con- ted on dogs, cats and rabbits Excitation of the vagus ve was applied in fifteen animals, and the nerve was evered in thirteen The results showed that the vagus has no direct influence on carbohydrate metabolism. The hyperglycemia following stimulation of the vagus is a psychic phenomenon, due to vegetative reflexes in the centers and sympathetic system Decrease of glycemia after division of the vagus may be explained by gradual failing of the animal, and extinction of its vital motor functions. Severing the vagus in parathyreoprival tetany and experimental pancreatic diabetes did not modify the content of glucose in the blood Removal of the striate bodies induced prolonged hyperglycemia analogous to that in diabetes mellitus or experimental pancreatic diabetes Division of the vagus had no action on it. Hyperglycemia, following excision of the striate body, is induced chiefly by the glycogen of the liver, and probably without participation of the suprarenal secretion. Severing the splanchnic nerves prevented hyperglycemia after removal of the striate body. It appears that only the sympathetic system plays an active part in regulating the glucose content of the blood

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 1-130 (Jan 2) 1926

Difficulty in Extraction of Trunk. Tholen —p 2
*Psychasthenic Depression or Melancholia? H Breukink —p 8
*The Heart in Epidemic Encephalitis Y. Hanneman —p 12
*Appendekthlipsia A Geesink —p 15
*Tuberculous Meningitis in an Infant P. Muntendam, Jr —p 20.
Puerperal Fever Merging into a Psychosis A de Groot —p 22
*"Autostasis" and Medicine F M G de Feyfer —p 27.

Psychasthenic Depression Versus Melancholia.—Breukink remarks that all persons with a neurosis are trussed up in a harness, bound by all kinds of remembered and dreaded things. But the depression is, as it were, superposed, and the only way to remove it is by influencing the mind. All other therapeutic measures merely fasten the inferiority complex more firmly. On the contrary, the patient must be impressed with the idea that he does not need supports and props Another point emphasized is the necessity for treating both man and wife when one has a neurosis, as the other is almost certain to be more or less affected. The environment must be instructed as to the way in which to respond to the patient's complaints; the constant pressure from the environment is a very potent factor in the aggravation or cure.

The Heart in Epidemic Encephalitis.—In four of the five selected cases the arrhythmia was pronounced, while in the fifth case the heart action was merely extraordinarily sluggish. Palpitations were one of the earliest symptoms of epidemic encephalitis in Hanneman's experience, and frequently gave the clue to the nature of the disease in the milder cases.

Appendekthlipsia.—Geesink has coined this term to designate a method of treating appendicitis when the tip of the appendix is so bound down by infiltration and adhesions that the usual technic is impossible. He severs the base of the appendix, turns in and sutures over the stump, and draws the detached base to the skin and fastens it. He has applied this procedure in two cases; in one the vessels were injured, and the appendix became necrotic and could be lifted out the fourth day In the other case the appendix gradually shriveled and retracted, with no further disturbances.

Tuberculous Meningitis in Four Months Infant.—Muntendam describes the case of an infant succumbing to tuberculous meningitis at the age of 4 months. He ascribes it to birth injury from forceps delivery. The lumbar puncture fluid revealed no bacilli, but the symptoms and the fact that the child had lived for three weeks after birth in a room with a consumptive in the last stages of tuberculosis, rendered the diagnosis reasonable.

"Autostasis" and Medicine.—De Feyfer gives a historical sketch of the conceptions through the ages of the *vis medicatrix naturae*, the autostatic reaction processes, which produce the well rounded and harmonious life. The ancient Chinese symbol for it is the circle Tay-Ky, representing the positive, male and the negative, female forces of life. Health requires the balance complete between them. Disease is the encroachment of one on the other. The twentieth century has restored the ancient conception of the importance of the balance: the osmotic balance, the acid-base balance, loss of nervous balance, etc.

Ugeskrift for Læger, Copenhagen

88: 103 122 (Feb 4) 1926

Six Simultaneous Cases of Cretinism in Danish Seacoast Town. O. Christensen —p 103
*The Insulin Complement C. Lundsgaard and S A Holboll —p 106.
*Test Breakfast and Test Meal Kramer-Petersen —p 108.
Poisoning with "Gople" Tea (Russian Fungus). Matthiessen —p 109.
The Medical Aspect of the New Penal Code. A Wimmer —p 113. C'cn.

The Insulin Complement.—This is the term proposed by Lundsgaard and Holbøll for the active substance or principle in muscle tissue which—when finely divided muscle tissue is added to insulin in vitro and placed in contact with a solution of glucose—transforms alpha and beta glucose into the form which they call "new glucose." Neither alone can accomplish this transformation; it requires the combination of both muscle tissue and insulin.

Test Meals.—Kramer-Petersen expatiates on the advantages of a test meal (soup, egg, potato and bread) when the findings with the test breakfast do not explain the patient's complaints He gives the parallel findings in fifteen typical cases. The information thus derived is a guide to treatment with acids or alkalis; the test breakfast alone may not decide which is preferable.

88: 123-148 (Feb. 11) 1926

*Intracranial Hemorrhages K Sand —p 123
Glycosuria and Psychoses S Hansen —p 127
Alcoholism and the Death Rate H Rørdam —p 140

Medicolegal Study of Intracranial Hemorrhage.—Sand discusses this subject from the theoretical as well as the practical standpoint, illustrated by concrete examples He warns of the necessity for extreme caution in drawing conclusions, as all kinds of intracranial hemorrhage may occur with the slightest of trauma or even spontaneously, as well as with severe trauma; and lesions elsewhere may be decisive factors.

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ABNORMAL BACTERIA FLAGELLA IN CULTURES

THEIR RESEMBLANCE TO SPIROCHETES *

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Since the introduction of dark ground illumination, which has become an indispensable means of studying certain spirochetes and filtrable micro-organisms, the possibilities for interpreting as spirochetes certain spiral elements encountered in examining culture materials have increased. Several papers dealing with the pseudoleptospira forms of citrated blood, which are seen especially after incubation at 37 C. for some time, have already appeared,[1] warning beginners not to mistake these for true leptospiras, but little attention has been given to still another source of misinterpretation not infrequently encountered in culture materials. In the present paper are recorded and discussed some observations such as once led me to mistake certain free bacterial flagella for involuted forms of a true spirochete.

In 1912, in an impure culture of *Treponema macrodentium*, a number of spiral elements were observed among typical forms of the spirochete. These elements were variable in width and length to an unusual degree. Some measured from 4 to 10 microns, and some from 20 to 40 microns. Each was provided with very regular, almost right angle windings throughout its entire length, the curves being wider at the median portion and gradually narrower toward the finely drawn ends. In large specimens the diameter of the spiral elements was several microns in the median portion and showed several parallel longitudinal striations along the axis as though in course of longitudinal division, while in minute specimens the filament measured only a fraction of a micron. The elements possessed no proper motility, appeared rigid and elastic, and showed slight affinity for Giemsa and other dyes. I thought these to be involuted forms of *Treponema macrodentium* under the conditions of impure cultivation (fig. 1).[2]

Several years later, in the course of attempts to cultivate the spirochetes of the gastric mucosa of dogs and cats and the spirochetal flora of stagnant water, it was repeatedly observed that when certain motile bacteria were present in the cultures, these free characteristic spiral elements were seen in varying numbers by dark field examination. Successive transplants of such cultures always carried both the spiral forms and the bacteria. While the bacteria might grow without the free spiral elements under certain conditions, no spiral elements appeared without the bacteria, and it looked at first as if the spiral elements were independent organisms growing in symbiosis with the bacteria. It was soon found, however, that these spiral elements could be made to appear from the bacteria at will by cultivating the latter on agar slants or semisolid "leptospira" medium. That the spiral elements are nothing but involuted flagella of the bacteria has been demonstrated by the fact that bacterial cells have sometimes been found with the flagella still attached at one or both ends, although as a rule the flagella of bacteria are invisible by dark-field illumination and are demonstrable only by special staining methods.

The size of these free bacterial flagella varies considerably in the same organisms and also with different varieties of bacteria, some bacteria giving rise to coarse spiral elements such as were observed in the impure cultures of spirochetes from the stomach of the dog (fig. 2 *A* and *B*), others to a form (fig. 2 *C, D, E*) not readily distinguishable from *Treponema pallidum*. Very delicate spiral filaments, which might readily have been confused with the minute spirochetes of the mouth, were recently found in a culture of *Leptospira icterohaemorrhagiae* which had become contaminated by bacteria through breaking of the culture tube during transportation (fig. 2 *G, H*). The spiral flagella are sharply drawn to invisibly fine points at both ends, and no buds or rudiments of the original attachment to the bacteria are recognizable; hence they appear as if they were leading an independent existence.

The possession of spiral terminal filaments, which develop to such abnormally large size under certain cultural conditions as to become visible, is common also in certain spirochetes, especially *Spironema* and *Treponema*. In their natural habitat the spirochetes of relapsing fevers or syphilis seldom show, under the dark field microscope, distinct terminal flagella, and when present they are seen only with the greatest difficulty owing to their extreme thinness. But in cultures these organisms invariably show a comparatively long and well defined, minutely curved spiral appendage at one end, sometimes at each end. These spirochetal flagella, however, are never seen to be compound in structure, as are some of the detached bacterial flagella, and they are seldom detached from the spirochetes (fig. 2 *I*).

In this connection a few words regarding the structure of *Spironema* and *Treponema* may not be amiss.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

[1] E. W. Schultz (J. Lab. & Clin. Med. **8**: 375 [March] 1923), in his discussion of artefacts in blood which simulate spirochetes, gives a considerable number of references on the subject.

[2] Dr. Theobald Smith, however, suggested at the time the possibility that they might be bacterial flagella.

The spirochetes of the various relapsing fevers (*S recurrentis, S. novyi, S. duttoni, S. gallinarum*) seem to consist of three main parts; namely, the cytoplasm, the spiral axial filament, and the flagellum. This structure can be readily demonstrated by allowing bile to act on the organisms. The cytoplasm is readily dissolved by the bile, and the thin axial filament, with regular spirals, is laid bare, the flagellum at either end remaining attached. The denuding process is easily followed by means of dark field illumination, and the results can be demonstrated by stained preparations. Figure 3 *A* shows the normal appearance of *S. recurrentis,* and figure 3 *B* the effect of the bile in exposing the thin spiral axial filaments. A normal specimen of *S. recurrentis* stained with Giemsa's solution after fixation with buffered solution of formaldehyde is shown in figure 3 *C*, while a corresponding preparation of a specimen treated with bile is shown in figure 3 *D*. Figure 3 *E, F,* shows similarly stained normal and bile treated specimens of *S. novyi.*

That the greater affinity for Giemsa's and other dyes shown by the relapsing fever spirochetes, as compared with *Treponema pallidum,* is due to the thicker cytoplasmic coat covering the axial skeleton is demonstrated by the fact that, after the removal of the cytoplasm the spironemes are more faintly stained than before bile treatment (fig. 3 *D, F*) and are reddish by Giemsa's method. The denuding process of bile takes place also in the case of *Treponema pallidum,* but with less striking results, owing to the thinness of the cytoplasmic coat.

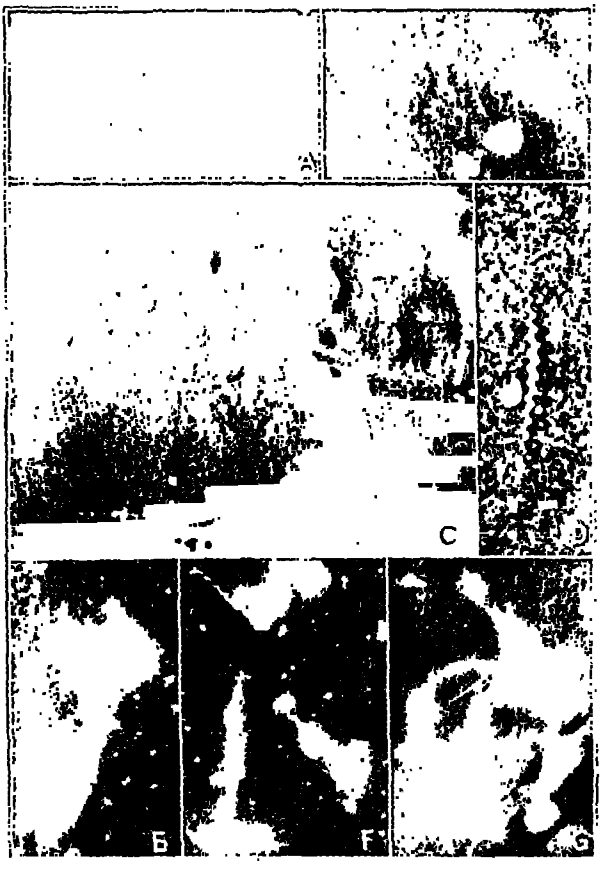

Fig. 1.—Spiral bacterial flagella encountered in an impure culture of Treponema macrodentium. All except *D* are dark field views magnified 1,000 times; *D* is a preparation made by Burri's india ink method, × 1,280.

Whether the flagellar substance of spirochetes is chemically identical with the axial filament is difficult to say, but both are spiral, are difficult to stain, are elastic in character, are similar in refraction of rays, and resist the lytic action of bile in certain concentrations. Unlike the treponemes and spironemes, the spirochetes of the *S. muris* group are normally provided with a large, distinct, readily recognizable terminal flagellum (fig. 2 *J, K*), and the cell body of these organisms is completely dissolved by bile, no trace of an axial filament remaining—perhaps none exists among this group, any more than among the true spirilla.

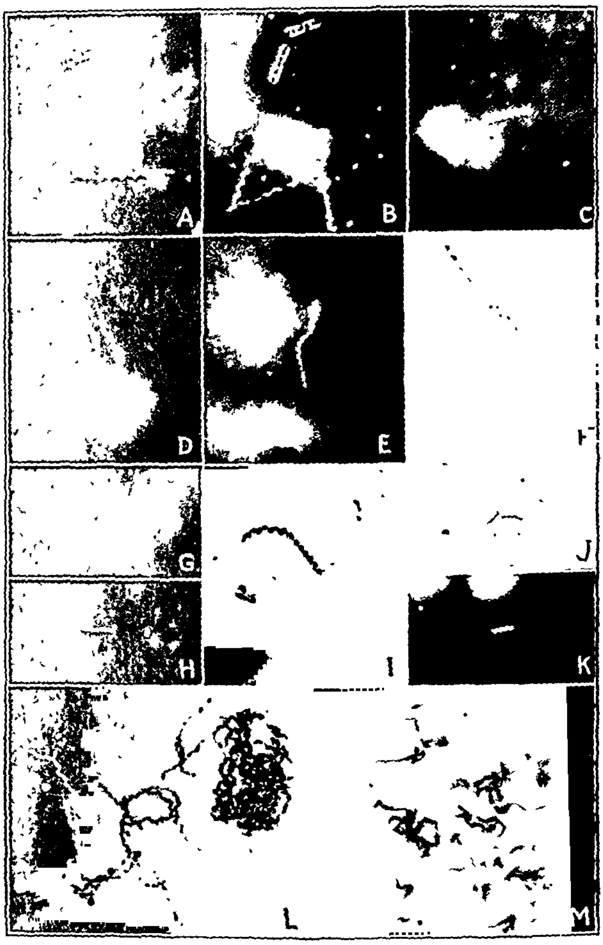

Fig. 2.—*A, B,* coarse spiral bacterial flagella in an impure culture of spirochetes from the dog's stomach; dark field views, × 1,000; *C, D, E,* *spiral elements* found in a culture of L. icterohaemorrhagiae from human blood; dark field views, × 1,000; *G, H,* spiral bacterial flagella in impure culture of L. icterohaemorrhagiae, × 1,000; *I,* dark field view of culture of Treponema pallidum, showing individuals with terminal flagella, and in lower left hand one detached flagellum; × 1,280; *J, K,* S. muris, showing terminal flagellum characteristic of this type of micro-organism; *J* is stained with Giemsa solution; *K,* a dark field view, both magnified 1,000 times; *L,* dark field view of pure culture of Treponema pallidum, for comparison; × 1,280; *M,* dark field view of pure culture of L. icteroides, for comparison; × 1,000.

Leptospira icteroides (fig. 2 *M*), *L. icterohaemorrhagiae,* and *L. hebdomadis* undergo granular disintegration when mixed with bile, and no axial filament comparable with that of the spironemes and treponemes has been demonstrated. No spiral elements (exaggerated free or attached flagella), such as those described for certain bacteria and spirochetes, have been encountered in the case of the leptospiras.

SUMMARY AND COMMENT

Besides the leptospira-like filaments, probably originating from red blood corpuscles under certain conditions in vitro, other spiral elements exist which may be erroneously interpreted as spirochetes. These are the exaggerated detached flagella of certain bacteria, produced under cultural conditions. In cultural studies of micro-organisms, the occurrence of these spiral elements must be borne in mind, particularly in connection with dark field illumination.

Spirochetes belonging to the *Spironema* and *Treponema* groups also produce, under certain cultural conditions, exaggerated flagellar appendages. These terminal flagella are similar in appearance and structure to the axial spiral filaments of the same organisms, but are much finer. The axial filaments are covered with a layer of cytoplasm which can be removed by the action of bile. The motility of these organisms resides in the portion of the filament next the attachment of the flagellum at either end.

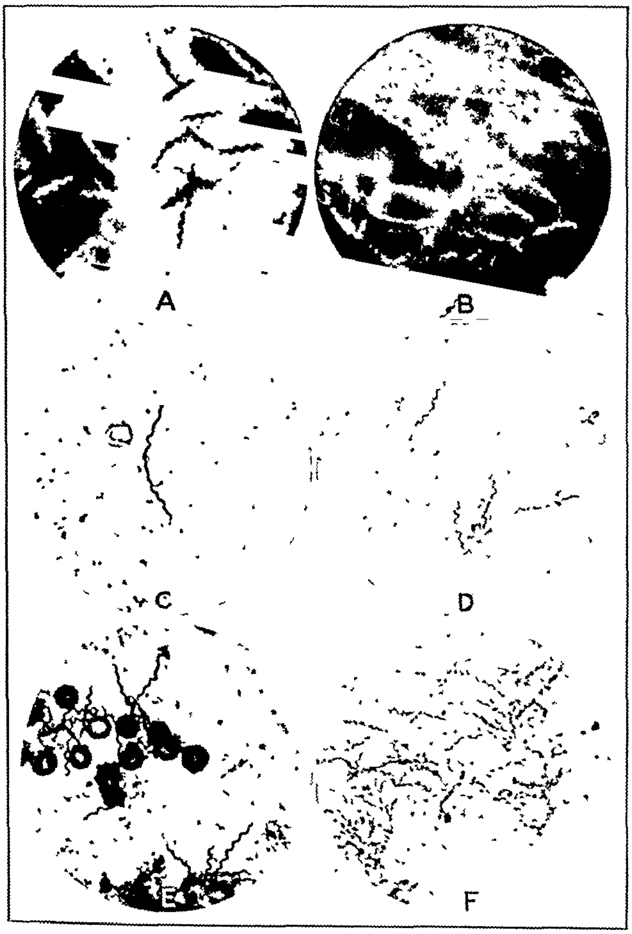

Fig. 3—*A*, dark field view of S recurrentis, × 1,000; *B*, the same, after it had been acted on by bile, *C*, S recurrentis fixed in buffered solution of formaldehyde and stained with Giemsa's solution, × 1,000, *D*, the same organism, after it had been acted on by bile, stained in the same way, *E*, S novyi, fixed in buffered solution of formaldehyde and stained with Giemsa's solution; × 1,000; *F*, the same organism, after it had been acted on by bile, stained in the same way

The great resemblance which exists between the flagella of motile bacteria and the flagellar and axial spiral apparatus of certain spirochetes seems to indicate that the axial filaments are probably a modified apparatus of similar origin especially adapted to the locomotion of spirochetes and therefore supports the hypothesis of a close phylogenic relationship between bacteria and spirochetes.

IDENTITY OF OHARA'S DISEASE AND TULAREMIA

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The present account of what we have styled for convenience's sake Ohara's disease is based on two papers[1] published in Japanese, reprints of which were kindly sent to one of us by the author, Dr. Ohara of Fukushima, Japan. The first part of our paper presents the epidemiologic, clinical, bacteriologic pathologic and experimental observations made by Dr. Ohara. The second part presents our own observations, which were made at Washington, D. C., on material furnished at our request by Dr. Ohara and which have led us to the conclusion that Ohara's disease and tularemia[2] are identical.

CHARACTERISTICS OF OHARA'S DISEASE

Distribution.—Dr. Ohara's attention has recently been called to an acute febrile disease transmitted to man by the wild rabbits of the Abukuma Mountains in the eastern part of Fukushima Ken (prefecture), Japan. In January, 1924, a mother and two sons, simultaneously stricken with the same disease, sought treatment at Dr. Ohara's hospital. On careful investigation of the origin of the infection, he learned that symptoms had developed after they had all taken part in skinning or in dressing a wild rabbit which they subsequently ate. On making inquiry from various sources, Ohara ascertained that a disease of this nature had been prevalent among the villagers of the Abukuma Mountains for about twenty years. Dr. Ohara gives detailed histories of seven cases personally observed by him and reports of eight additional cases submitted by two physicians practicing in other parts of Fukushima Ken. Ohara's articles convey the impression that the infection is by no means uncommon in certain districts of the ken mentioned. Reference is made to cases occurring in five other kens but without, as a rule, details In general, the infected districts lie to the north and rather to the east of Tokyo.

Relation of Rabbit Epizootic to Human Disease.—At certain seasons, dead rabbits in great numbers are seen in the mountains, the infection seeming to rage severely among these animals during the hunting season; i. e., from late autumn to early spring. In Ohara's opinion, the disease in man is caused by contact with the uncooked meat of the infected rabbit. An etiologic relationship is shown between the act of touching the flesh with the fingers in skinning these wild rabbits or in dressing the meat, and the onset in man of a febrile disease with swelling of the lymph glands. Human infection occurs whether the wild rabbit has been found actually dead or whether he is captured while still alive but suffering from this disease. In Dr. Ohara's experience, those who merely eat the cooked flesh of the rabbit or touch only the external surface of the skin show no symptoms of illness. In his opinion, the danger lies only in contact of the fingers with the raw meat.

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[1] Ohara, Hachiro: Concerning an Acute Febrile Disease Transmitted by Wild Rabbits A Preliminary Report, Jikken Iho, March 12, 1925, Japanese text, Human Inoculation Experiment with a Disease of Wild Rabbits, with a Bacteriologic Study, Kinsei Igaku **12**, no 5, Japanese text

[2] Francis, Edward: Tularemia, J A M A **84**: 1243 (April 25) 1925

Site of Infection and Lymph Glands.—Judging from the almost constant swelling of the lymph glands of the elbow and axilla, Ohara concludes that the site of infection must be the skin of the finger.

In two of Ohara's cases there were visible lesions of the fingers, in one instance containing a small quantity of pus, while in other cases macroscopic lesions of the fingers were lacking. It appears, therefore, that infection through the normal skin of the fingers is possible.

Enlargement of lymph glands (axillary, epitrochlear, etc.) is unilateral if only one hand is infected, but bilateral if both hands are infected.

Incubation.—The incubation period, as determined from case histories, may vary from one day to seven days.

Symptoms and Course.—After a short incubation the onset is sudden, with chilliness, or rigor and fever. Among other early symptoms are headache, languor, loss of appetite, vomiting, and articular and muscular pains. The important symptom, however, is inflammation of the lymph glands of the upper extremity, particularly those of the axilla and elbow. The adenitis may be unilateral or bilateral. The fever is at first continuous, later showing a morning remission, and may continue for several weeks; a temperature rise to 39 or 40 C. (102 to 104 F.) has been observed. In severe cases, the patient is confined to bed for several days. In a large percentage of cases, swelling of the axillary or other lymph glands goes on to suppuration. The axillary tumor may be tender or it may simulate a tuberculous adenitis, being practically painless and only slightly tender on pressure. The enlargement of the glands continues a long time, and they may still be palpable after three months.

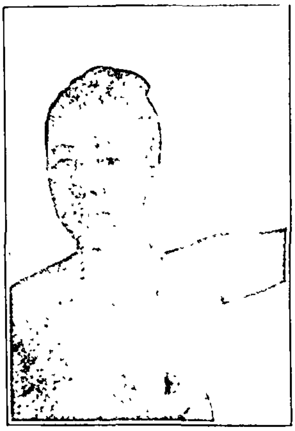

Fig. 1.—Axillary tumor prior to operation in experimental case.

Skin Eruption.—This is usually absent. In one case, a transient rash appeared on the face and neck.

Diagnosis.—This presents no difficulty, provided one is familiar with the symptomatology of the malady and its relationship to the disease of rabbits. In the presence of an epidemic, there may be confusion with typhus abdominalis.

Prognosis.—This is good; no fatalities directly due to the disease have as yet been reported.

Treatment.—Ohara employed neo-arsphenamine and surgery.

VOLUNTEER HUMAN INOCULATION

Mme. Ohara's cheerful offer of herself to help prove the scientific conviction of her husband adds one more to the long list of heroes of human experimental medicine.

A rabbit having been found dead in a district where numerous human cases of this disease had developed very recently, its heart was laid open under aseptic precautions and some of the contained blood and tissue fluids were lightly rubbed into the back of Mme. Ohara's left hand, Jan. 20, 1925, and about twenty minutes later the adherent material was washed off with soap. January 22, the patient complained of trifling tenderness of the left axillary gland on deep pressure, and slight headache. January 24, there was general malaise; rise of temperature (37.4 C.); enlargement of the left axillary gland to the size of a soy bean, and the patient was confined to bed. On the 25th, chilliness, articular pains, headache, languor, numbness of the extremities and constipation were noted. January 26, an axillary lymph node reached the size of the end of the index finger and was very tender, and both inguinal glands were swollen and were slightly tender. The temperature curve showed fever of nine days' duration (January 24 to February 1), which reached its maximum, January 26 (39.8 C., not charted). February 7, two axillary glands the size of a pigeon's egg and several smaller glands were removed at operation; the two larger glands had undergone suppuration. Two careful blood examinations were made, with the results shown in table 1.

Table 1.—*Blood Examinations*

	January 26	January 29
Number of erythrocytes	4,860,000	4,520,000
Hemoglobin (Sahli)	93%	90%
Number of leukocytes	12,500	18,000
Polymorphonuclear neutrophils	85.12%	72.34%
Eosinophilic leukocytes	0.15%	2.34%
Small lymphocytes	6.88%	16.35%
Large lymphocytes	4.31%	2.12%
Basophilic leukocytes	0.00%	0.31%
Large mononuclear and transitional cells	3.54%	6.54%
Arneth's count	Moderate shift to left	Slight shift to left

BACTERIOLOGY

Stained Smears.—Dr. Ohara demonstrated by stained preparations (1) in the pus of one patient's suppurating axillary glands an extremely small bacillus and a gram-positive diplococcus; (2) in the pus from another patient's finger, a pseudodiphtheria bacillus and a gram-positive diplococcus, and in pus from the elbow gland of the same patient, the same diplococcus in large numbers; (3) in another patient, pus from the center of an excised axillary gland showed a few gram-positive diplococci.

Cultures.—Stab cultures made on blood agar of pus from an excised axillary gland of the experimental human case yielded a bacillus resembling morphologically the tubercle bacillus and two kinds of diplococci. Smears of the heart blood of the rabbit used in the human transmission experiment showed similar diplococci.

Causative Organism.—Dr. Ohara does not claim to have isolated the causative organism of the disease in pure culture.

PATHOLOGY

Histologic examination of the lymph gland excised in the human experimental case showed round cell infiltration, dilatation of the blood vessels, extravasation of blood, small pus cavities, caseation and giant cells.

ANIMAL INOCULATIONS

Dr. Ohara performed no animal transmission experiments. The necropsy report of the rabbit found dead and used for his human transmission experiment does not contain specific mention of the typical lesions of tularemia in the spleen, liver and lymph glands. There is one reference[3] to yellow specks having been seen on section of the livers of dead rabbits.

REPORTS OF TWO CASES OF OHARA'S DISEASE[4]

CASE 2.—M. S., a woman, aged 46, a farmer, caught a live rabbit, Dec. 28, 1923, which was dressed by her eldest son (patient 3). Taking up the meat with her left hand, she placed it in the pot. At this time there were no visible lesions on the fingers of the left hand. On the third day (December 30) there suddenly appeared chilliness, a marked feeling of general malaise, and loss of appetite. On the fifth day, the patient became aware of a considerable swelling, tender on pressure, in the left axilla. After employing various kinds of symptomatic treatment for about ten days, she finally became able to walk, and on Jan. 7, 1924, sought treatment at the dermatologic department of Dr. Ohara's hospital.

The patient was well developed physically and well nourished. The fingers of the left hand showed no abnormalities or evidence of injury; the lymph glands of the left axilla and left elbow were greatly swollen; the temperature, 38.2 C. The diagnosis was acute adenitis of unknown origin. Local applications were prescribed, and the patient was directed to return home.

January 15, the patient returned to the hospital; the temperature was 38 C.; a general feeling of malaise was still present. Tentatively an intravenous injection of neo-arsphenamine was administered. On the following day the constitutional symptoms suddenly disappeared and the appetite showed improvement.

January 21, the temperature was 36.8 C. After the first injection subjective symptoms were entirely absent and the patient progressed favorably, yet on account of the persistence of swelling of the lymph glands a second injection was given.

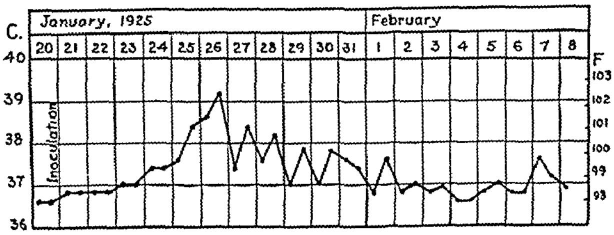

Fig 2.—Temperature in experimental case

January 26, a third injection of neo-arsphenamine was given. January 30, the lymph nodes having greatly diminished in size and no longer exhibiting tenderness on pressure, treatment was suspended. The course of the disease was thirty-three days.

CASE 3.—T. S., a man, aged 25, eldest son of patient 2, with the aid of his younger brother, Dec. 28, 1923, cleaned a wild rabbit that was alive when captured. In dressing the animal, he held the knife in his right hand and grasped the flesh with his left hand. He states that at that time he observed no lesions whatever on either hand. On the third day, December 30, just as in the case of his mother, chilliness and a febrile attack supervened. By evening, being much indisposed, he took to bed. A feeling of chilliness came on daily. The patient stated that on the fifth day he observed a large tumor in the left axilla.

Jan. 15, 1924, he came to Dr. Ohara's hospital, accompanied by his mother. He was well developed and well nourished. There were no lesions on the fingers of either hand. The left epitrochlear lymph node was swollen to the size of the end of a thumb; the left axillary glands were enlarged to the size of a small apple, and, while not painful, exhibited tenderness on pressure; the temperature was 38.2 C. The thoracic and abdominal viscera were apparently normal; the color of the skin was normal; there was no albumin or sugar in the urine; the Wassermann reaction was negative. An injection of neo-arsphenamine was given.

January 24, the temperature was 37.5 C. Following the first injection, the feeling of general malaise disappeared and the patient became able to resume work. The swelling of the glands at the elbow was somewhat diminished; there was no change in the condition of the axillary glands. A second injection of neo-arsphenamine was administered, after which the patient felt as though he was entirely cured and was so regarded. February 24, he again visited the hospital on account of a slight softening of the axillary glands, which now showed fluctuation on palpation. On incision, yellow, odorless pus was evacuated. A number of smears of the pus were prepared and stained with Loeffler's solution. On examination an extremely small bacillus, resembling the tubercle bacillus, and a gram-positive diplococcus were demonstrated.

TESTS MADE AT WASHINGTON, D. C.

Agglutination.—At our request, Dr. Ohara furnished us with blood serums from seven cases which came under his observation. Serums 1, 2 and 3 were received at the Hygienic Laboratory, United States Public Health Service, Washington, D. C., Oct. 27, 1925; serums 6, 7 and 8, November 25; serum 9, Jan. 5, 1926. These were tested for agglutination of *Bacterium tularense* together with proper positive and negative control serums, with the results given in table 2.

Analysis of the table shows that the serums of long-recovered cases 1, 2 and 3 agglutinated *Bacterium tularense* promptly and completely in dilutions of 1:10 and 1:20, and that the serums of cases 6, 7, 8 and 9, taken in the third, fourth and fifth weeks of illness, at the height of agglutinin production, agglutinated *Bacterium tularense* promptly and completely in dilutions of 1 to 10, 20, 40, 80, 160 and 320, but not in higher dilutions. These results are in accord with those obtained when testing tularemia serums collected from long-recovered cases and from acute cases.

Isolation of Culture.—Jan. 5, 1926, we received from Dr. Ohara a portion of a human lymph gland which he had removed from a patient, Nov. 30, 1925. We injected the gland tissue into guinea-pigs, which died acutely manifesting the typical lesions of tularemia—spotted spleen and liver and caseous lymph glands; from these animals we isolated a culture on coagulated egg yolk and glucose cystine agar. This culture was compared with *Bacterium tularense*, with which it was

TABLE 2.—*Agglutination Tests*

Cases of Ohara's Disease	Onset	Time Between Onset of Disease and Date of Collection of Serum
No. 1. Mme Ohara (R. O.).	Jan. 22, 1925	8 months
No. 2. M. S. (mother)	Dec. 30, 1923	1 year 9 months
No. 3. T. S. (son)	Dec. 30, 1923	1 year 9 months
No. 6. A. (male)	Oct. 8, 1925	24 days
No. 7. Y. (male) .	Oct. 1, 1925	31 days
No. 8. T. (female) .	Oct. 5, 1925	27 days
No. 9. Y. K. (male)	....	About 18 days

Antigen	Serums	Serum Dilutions 1:10	20	40	80	160	320	640	1,280
Bacterium tularense	No. 1. .	4	4	2	0	0	0	0	0
Bacterium tularense	No. 2.	4	4	0	0	0	0	0	0
Bacterium tularense	No. 3.	4	4	0	0	0	0	0	0
Bacterium tularense	No. 6.	4	4	4	4	4	4	0	0
Bacterium tularense	No. 7. ...	4	4	4	4	4	4	0	0
Bacterium tularense	No. 8.	4	4	4	4	4	4	0	0
Bacterium tularense	No. 9 .	4	4	4	4	4	4	0	0
Bacterium tularense	Normal	0	0	0	0	0	0	0	0
Bacterium tularense	Antitularense	4	4	4	4	4	4	4	0

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[3] Idogawa, cited by Ohara.

[4] Ohara (footnote 1, first reference).

found to agree in its morphologic, biochemical and cultural characteristics

Animal Inoculations—Guinea-pigs, rabbits and white mice were inoculated with the culture, and they died acutely manifesting the typical lesions of tularemia, in these animals the infection has now been propagated by animal transfers for a period of two months

Pathology—Microscopic sections of the spleens, livers and lymph glands of the experimental animals show the typical histopathology of tularemia

Agglutinin Absorption—Antiserums were prepared by immunizing one rabbit against Ohara's strain and another rabbit against an American strain The two rabbit serums were then compared by methods of reciprocal agglutinin absorption and resulted in proof of the agglutinogenic likeness of the Japanese and American cultures

SUMMARY AND CONCLUSION

Dr Hachiro Ohara's description of the clinical and epidemiologic characteristics of a disease which he has observed in Fukushima City Japan agrees even in minor details with the picture of tularemia

The following tests were made in Washington D C, by the United States Public Health Service 1 Serums collected and forwarded by Dr Ohara from cases which came under his observation agglutinated *Bacterium tularense* 2 Glandular tissue removed from a human case and forwarded by Dr Ohara caused tularemia in laboratory animals from which *Bacterium tularense* was isolated 3 Reciprocal agglutinin absorption tests failed to distinguish any difference between the Japanese culture and an American culture

The conclusion is reached that Ohara's disease occurring in Japan and tularemia occurring in the United States are identical

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ANGIONEUROTIC EDEMA

REPORT OF CASE, WITH NECROPSY FINDINGS *

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NEW HAVEN, CONN

In 1882, Quincke described a condition characterized by a sudden appearance of localized and circumscribed edema in various regions of the body He named this condition "acute circumscribed edema" It is usually transient and is not associated with untoward consequences unless the larynx is involved, in which case the person affected may die Since the publication of the paper referred to, a number of writers have described the condition under various names, for example, Quincke's disease, Quincke's edema, angioneurotic edema, hereditary edema, familial edema, and giant urticaria

It has been impossible up to the present time to establish a definite etiologic basis for this disease Apparently, it occurs with equal frequency in the sexes during any period of life, and the lesions have been observed in practically every region of the external surface of the body and in the thoracic and abdominal viscera The duration of an attack varies from a few hours to six days It has been suggested that the condition is a manifestation of protein sensitiveness but evidence is lacking to support the idea An interesting fact established, however, has to do with the apparent hereditary nature of the condition This aspect of the subject has been dealt with by Osler,[1] Ensor, the Crowders[2] and Bullock[3]

The literature describing this disease has been reviewed by Fairbanks,[4] the Crowders[2] and others. In spite of a large number of reports of instances of the disease, many of which terminated fatally, there are few records of postmortem findings It may be said, however, that reports by Harbitz,[5] Griffith[6] and Morris[7] contain good descriptions of the associated pathologic anatomy In this communication I report an instance of the disease involving the larynx—death resulting—together with the necropsy findings

REPORT OF CASE

History—I W, a baby girl, aged 14 months, was brought to the New Haven Hospital, where it was pronounced dead. The facts related by the mother are as follows

The child awoke and was given a cup of milk, a few minutes later it began to cry, and in a short time it appeared to be choking The tongue was observed to protrude and to have become blue, and the neck became big and hard The child was rushed to the hospital but died on the way The admitting physician reported that the body was well developed and well nourished No swelling was noted about the face The skin was clear except for patches of eczema on the face There was generalized enlargement of the superficial lymph nodes The tonsils were moderately enlarged On palpation, the pharynx and epiglottis were found to be so thick and boggy that the entrance to the larynx was completely obstructed

It was learned from the mother that, during the month just past, on several occasions the child had had swellings appear on various parts of the body, but they had disappeared in each instance in a few hours In particular, the hands and feet, the eyes, and lower lip became twice their natural size No constitutional symptoms were noted, however As far as the mother could tell, the child appeared perfectly well the night before the attack already described, which resulted in death No history could be obtained of any important illness previous to this

The following considerations about the family history are interesting There were five children, three boys and two girls One daughter died under circumstances similar to those described in the case under consideration A boy, aged 8, had an attack in which swelling began about the eyes and then spread until the nose and throat were involved Swallowing was difficult and painful The boy was taken to the hospital, where it was further observed that the tonsils were enlarged and the uvula and posterior pharynx were swollen and edematous There was no enlargement of the superficial lymph nodes Ten minims (0 6 cc) of epinephrin were administered and the edema decreased within twenty minutes, but did not disappear until twelve hours later Subsequently, tests were made with a variety of proteins for sensitiveness A marked reaction was obtained with cat's hair and beef, however, no outstanding disturbance was observed to follow the child's eating beef or playing with a cat

The other two boys had not shown any symptoms

Necropsy Report—Postmortem examination was made six hours after death Save for some swelling of the left thumb and marked cyanosis of the lips, there were no remarkable external manifestations

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* From the Brady Laboratory of Pathology and Bacteriology Yale University School of Medicine

[1] Osler William Hereditary Angioneurotic Edema, Am J M Sc **95** 362 1888 On the Visceral Manifestations of the Erythema Group of Skin Diseases ibid **127** 1, 1904 Osler and McCrae System of Medicine **4**·998 1915

[2] Crowder, J R and Crowder T R Five Generations of Angioneurotic Edema Arch Int Med **20** 840 (Dec) 1917

[3] Bullock William Angioneurotic Oedema, Eng Lab Mem Treas of Human In[illegible] III 1909 p 38

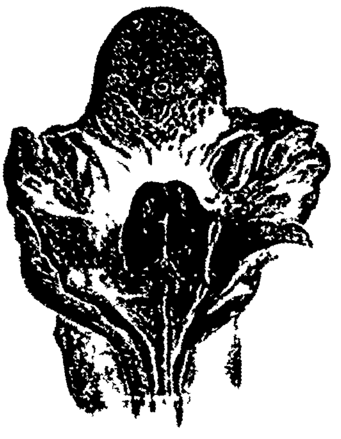
[4] dema Am J M Sc **127** 877 1904

[5] Angioneurosen, Munchen med Wchnschr. **58** 2557 1911

[6] Griffith Remarks on a Case of Hereditary Localized Edema Proving Fatal by Laryngeal Obstruction Brit M J **1** 1470 1902

[7] Morris Angioneurotic Edema Am J M Sc **128** 812, 1904; **130**·382 1905

The changes of particular interest were confined to the respiratory system. The wall of the lower posterior and lateral pharynx and the uvula were markedly swollen, pale, and translucent in appearance; the tonsils and tongue were not edematous. There was an extreme edema of the epiglottis, aryepiglottic folds, and the cuneiform and corniculate tubercles, so that their outlines were obliterated, as shown in the accompanying illustration. Only two large, swollen, translucent vertical lips were seen, which completely approximated each other except for a tiny diamond-shaped orifice not more than 1 mm. in its greatest transverse diameter. Each lip measured 2 cm. from its origin on the posterior larynx—at the obliterated interarytenoid notch—to its tip. The tip almost reached the swollen uvula. The trachea and larynx were opened anteriorly so as to obtain a good view of the larynx from below. The swelling extended downward and involved the vocal cords to a moderate extent, but there was no evidence of edema below the cords. The lungs were voluminous and purple. They had a somewhat doughy, homogeneous consistency, and pressure on either lung caused pink, frothy fluid to exude into the trachea. Occasional pinpoint hemorrhages were seen over the pleural surface. Section was made after fixation of the whole specimen. The cut surface appeared homogeneous, and pink fluid exuded from the alveoli and bronchioles.



Edema of the epiglottis and larynx, with almost complete closure of the orifice

Microscopic examination of the lungs showed edema which involved the alveoli moderately, and the subpleural, peribronchial and interlobular connective tissue markedly. It was shown in some areas by a pink staining, granular material, and in others only by a spreading apart of the tissue. The alveolar walls were congested, and in some of the alveoli a few red blood cells were seen. The bronchioles contained a few desquamated epithelial cells, red blood cells and a little serum. The peribronchial lymphatic tissue was slightly increased. In the wide interstitial bands the blood vessels seemed large, but there were also very conspicuous lymphatics, some with intact and others with ruptured walls. Small hemorrhages or scattered erythrocytes were seen here and there, and not infrequently polymorphonuclear cells, many of them with an eosinophilic granular cytoplasm, were seen in small accumulations or were scattered more diffusely through a wider zone.

In the pharynx, adjacent to the larynx, the picture was also mainly one of edema, which lifted up the mucosa, spread apart glands, muscle bundles and even muscle cells, and extended into the deeper submuscular connective tissues. The blood vessels and lymphatics were moderately dilated. The cells here were chiefly of the small mononuclear type, although a few polymorphonuclears and large mononuclears mingled with them. They were most conspicuous in the submucosa but invaded the lower layer of the mucosa and the intramuscular bands.

The lymphoid tissue everywhere was abundant and hyperplastic. The large pale centers of the malpighian corpuscles in the spleen and of the lymph follicles in the intestines and in the nodes showed numerous mitotic figures.

COMMENT

The condition described above is that of an extreme edema of the respiratory tract, with a mild and variable type of cellular reaction. In some sections of the lungs, the character of the response suggests an early inflammation. In other sections of the lungs and the pharynx the picture is not unlike that sometimes seen following protein sensitization; namely, a predominance of mononuclear cells.

URINARY PROTEINS

CRYSTALLINE PROTEINS OF NEPHRITIS *

WILLIAM H. WELKER, Ph.D.
WILLIAM A. THOMAS, M.D.
AND
LUDVIG HEKTOEN, M.D.
CHICAGO

Crystalline proteins have been isolated from the urine up to the present time in only eight cases.[1] In the course of work on human blood proteins, difficulty was experienced in obtaining blood for the preparation of sufficient quantities of albumin. This led to an attempt to separate this protein from the urine of patients with nephritis that were eliminating large quantities of protein. In the course of this work it was discovered that, under certain conditions, proteins in the cases studied tended to become crystalline.

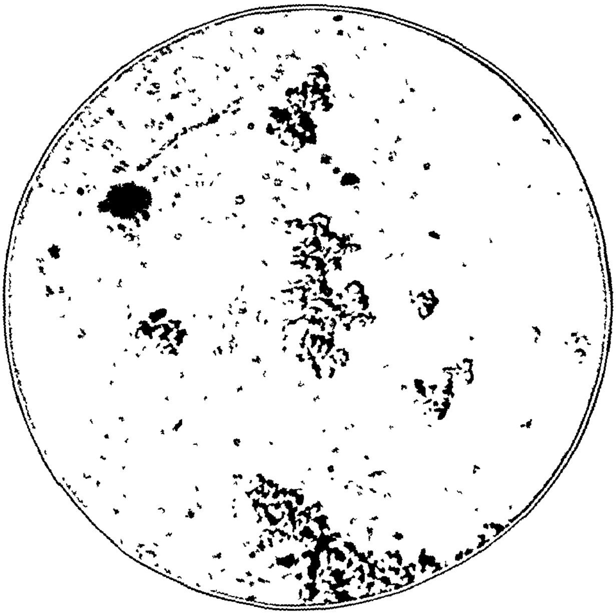


Fig 1.—Typical globular protein crystals obtained from urine of patients with nephritis

As a preliminary treatment, the urine was saturated to 25 per cent with ammonium sulphate, left standing

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* From the Laboratory of Physiological Chemistry, University of Illinois College of Medicine, the Presbyterian Hospital, and the John McCormick Institute for Infectious Diseases.

[1] Bramwell, Byrom; and Paton, D. N.: On a Crystalline Globulin Occurring in the Human Urine, Rep Lab Roy. Coll. Phys. Edinburgh **4**: 47, 1892. Magnus and Levy: Ueber den Bence Jones'schen Eiweisskörper, Ztschr. f. physiol Chem. **30**: 200, 1900. Grutterink and de Graaf: Ueber die Darstellung einer krystallinischen Harnalbumose, Ztschr. f. physiol. Chem. **34**: 393, 1901; **46**: 472, 1905. Schumm and Kimmerle: Ueber das Vorkommen eines krystallisierbaren nicht koagulierbaren Eiweisstoffes im Harn bei einem Falle von Magencarinom, Ztschr. f. physiol Chem. (Hoppe-Seyler) **92**: 1, 1914. Walters, Waltman: Bence-Jones Proteinuria, J. A. M. A. **76**: 641 (March 5) 1921. Krauss, E.: Studien zur Bence Jones'schen Albuminurie, Deutsches Arch. f. klin. Med. **137**: 275 (Oct.) 1921. Hektoen, Ludvig; and Welker, W. H.: Further Observations on Precipitin Reaction of Bence-Jones Protein, J. Infect. Dis. **34**: 440-446 (May) 1924. Hektoen, Ludvig; Kretschmer, H. L., and Welker, W. H.: A Peculiar Crystalline Protein in Human Urine, J. A. M. A. **83**: 1154-1156 (Oct. 11) 1924.

for a few minutes until flocculation had taken place, and then filtered. The filtrate was placed back on the filter paper until a clear fluid was obtained, which was completely saturated with ammonium sulphate. The precipitate was dissolved with the requisite amount of distilled water giving a protein solution of moderate concentration. This solution was treated with saturated ammonium sulphate solution until a slight, but permanent, flocculent precipitate formed. The mixture was then filtered and refiltered until a crystal clear fluid resulted. The solution was set aside in a crystallizing dish, and usually at the end of twenty-four hours a copious sediment had appeared, which under the microscope was composed of globular crystals of protein, as shown by appropriate tests. After standing for a number of days, but before any gross separation of ammonium sulphate had occurred, the solution was filtered, the sediment on the filter paper dissolved in distilled water and again treated with saturated ammonium sulphate until a slight but permanent precipitate had formed. The solution was filtered and refiltered until clear, and again set aside for crystallization. Again globular crystals of protein appeared at the end of twenty-four hours.

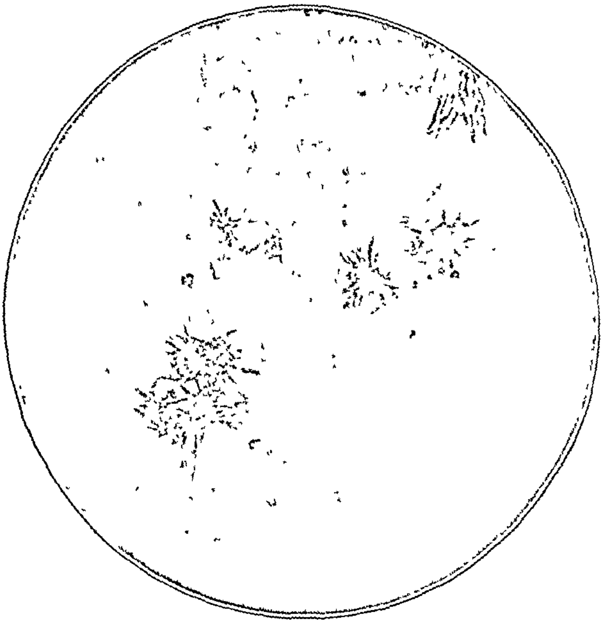

Fig 2.—Needle shaped protein crystals obtained in second crystallization of proteins obtained from the urine in one of the cases studied

So far, we have studied the urine in ten cases of nephritis, and in all, the globular crystals of protein (fig. 1) have been obtained. In one case the second crystallization yielded definite needle-shaped crystals, as shown in figure 2. Of the ten cases, three were instances of marked hypertension, with no edema; three, of hypertension, with edema, but no decompensation; two, of hypertension with decompensation; one, an acute glomerular nephritis in a child, and one, a marked generalized anasarca of undetermined origin. Of the ten patients, five have died, two in the pure hypertension group, one of hypertension with edema, one in the decompensated group, and the anasarca patient. Necropsies of the two patients with pure hypertension and with decompensated hypertension revealed no changes other than the renal, vascular and cardiac changes common in such conditions.

The proteins obtained on the second crystallization have been tested with specific precipitin serums for human albumin, euglobulin and pseudoglobulin, and all three of these proteins were present in considerable quantities in the crystalline preparations from all the urines studied.

SUMMARY

In ten cases of nephritis, proteins were obtained in the form of globular crystals from the urine. In one instance, the protein appeared as needle-like crystals. Precipitin tests indicate that the protein crystals consist of compounds of serum albumin, euglobulin and pseudoglobulin.

IODIZED SALT IN THE PREVENTION OF GOITER

IS IT A SAFE MEASURE FOR GENERAL USE? *

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During the last year, we have been impressed by a great increase in the incidence of hyperthyroidism and particularly by the appearance of an unusual type of thyroid hyperactivity in men. We have therefore made a special study of these cases with particular reference to the possible etiologic factors involved, and have found that the accumulated evidence seems to point conclusively to the continued ingestion of small amounts of iodine in the insidious form of iodized salt as the primary exciting factor. For this reason, we feel that it is important to call the attention of physicians, and through them of the public, to the misunderstanding that has gradually arisen regarding the use of iodine in endemic goiter, particularly in the form of iodized salt. Without any precaution being given for its use, this salt is being vigorously promoted by the combined propaganda of health officials and of salt companies, who, through the agency of newspaper articles, civic meetings and attractive advertising, have gradually created the impression in the lay mind that iodine is a panacea for all goiter conditions and will ultimately solve the whole endemic goiter problem. For example, the issue of *Hygeia* for February, 1926, contains an advertisement of iodized salt, which includes the following quotations under the caption "What Well-Known Medical Men Say":

> "Iodine is almost an absolute preventive of goiter. That has been proved beyond all question. Given in table salt it is a preventive for goiter."—Dr. Charles H. Mayo, in an address before the Wayne County Medical Association, Jan. 26, 1924.
>
> "Iodine is not a medicine. It is simply a replacement of one of the needed elements in food. We urgently ask the people of our city to use iodized salt both for table and cooking."—Dr. C. S. Slemmons, City Health Commissioner, Grand Rapids, Mich.

As a result of such propaganda, during the last year the general use of iodized salt has become very extensive in the Great Lakes and West Virginia goiter regions.

The question as to whether hyperthyroidism is induced by the administration of iodine has been recently discussed by O. P. Kimball,[1] who, by means of a statistical study of cases from the Cleveland Clinic, showed that a large number of the patients had used iodine in some form. His report proved rather conclusively that iodine would activate the thyroid gland to hypersecretion, but he felt at that time that the small amount of iodine contained in iodized salt could hardly be responsible for the production of hyperthyroidism except in cases of long standing adenoma. Since the writing of that article, however, its dangers are becoming more apparent, for iodized salt is now being very much more extensively used by the public than other forms of iodine, such as sodium iodide, iodostarine and compound solution of iodine (Lugol's solution), probably because of the propaganda to insure its use and also because of the fact that when one member of a family is advised to use iodized salt the whole family must use it, as its use in cooking is always advised. This extensive use of iodized salt appears to be a plausible explanation of the fact that between 25 and 50 per cent of all the cases of hyperthyroidism in which operation has been done here during the last six months appeared to have been directly due to or exacerbated by this agent. The wide range of these figures is due in part to the fact that some of the patients had had symptoms of the disease before using the salt, so that we must take into account the possibility that in some of these cases, even though the earlier symptoms were mild, "full-blown" hyperthyroidism might have developed without the use of iodized salt, and in part to the fact that it is impossible in some cases to establish the exact

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* From the Medical Division of the Cleveland Clinic.

[1] Kimball, O. P.: Induced Hyperthyroidism, J. A. M. A. 85: 1709-1710 (Nov. 28) 1925.

Analysis of an Unusual Type of Hyperthyroidism in Sixteen Men

Age and Occupation	Duration of Symptoms, Mo.	Duration of Use of Iodized Salt, Mo.	Loss of Weight, Pounds	Weakness	Nervousness	Tremor	Pulse Rate	Blood Pressure	Presence of Goiter Before Taking Salt	Condition of Thyroid on Examination	Exophthalmos	Basal Metabolism Rate	Infection	Pathologic Condition	End-Result
42 Office work	12	18	25	++	++	++	104	166/70	Slight	Soft vascular, bruit	Slight	+50	Teeth questionable	Colloid goiter	No improvement after operation; when 3 months later similar cases called attention to use of iodized salt and he stopped its use, improvement resulted
41 Electrical engineer	6	12	45	++++	++	++	150	110/70	None	Small, scarcely palpable, firm	Slight, staring	+49	Abscessed teeth	Hyperplasia	Use of iodized salt not discovered until after operation; marked improvement on discontinuance
39 Real estate dealer	6	12	6	++	++	++	130	130/70	Not noticed	Very slight edema of right lobe	Slight, staring	+50	Abscessed teeth	Not operated on	Slight improvement after two months rest
35 Office work	2	6	12	++	++	++	104	144/70	None	Soft, small struma, not visible	Slight, staring	+29	Teeth questionable; not roentgenographed	Refused operation	No improvement after three months rest
43 Office work	8	12	56	++++	++	+	132	168/58	None	Moderate diffuse enlargement with bruit and thrill	Slight exophthalmos	Not taken	Chronic tonsillitis	Operation advised	Did not return for operation
32 Clerk	12	24	30	+	+	+	110	130/70	Not noticed	Normal	Slight, staring	+26	Two teeth recently extracted	Not yet operated on	
34 Clerk	3	12	40	++	+	+	120	120/80	Not noticed	Firm, moderate size bilateral enlargement	None	+47	Marked oral sepsis	Colloid goiter	Excellent condition
39 Inventor	6	18 24	30	++++	++	+	140	110/65	Not noticed	Scarcely palpable	None	+34	Abscessed, infected tooth, tonsils	Colloid goiter	Excellent condition; gain of 15 pounds in 3 weeks
35 Manager of store	9	12	20	++	+	++	120	130/60	Not noticed	Fairly soft, slightly enlarged	Slight	+56	Questionable teeth	Fetal adenoma, colloid goiter	Improvement; gain of 15 pounds; marked tremor still present; continued use of iodized salt just discovered
51 Grocer	5	8	15	++++	+	+	118	144/66	Not noticed	Scarcely palpable	Very slight	+71	Questionable teeth	Refused operation	Slight improvement in 6 weeks under medical treatment
55 Merchant	7	16	40	++++	+	+	128	146/62	Not noticed	Scarcely palpable	Slight, staring	+41	Oral sepsis	Ligated only	Improvement
32 Office work	1	8	8	+	+++	+++	92	140/80	None	Very small, firm, struma	None	Not taken	Suspicious teeth	Colloid goiter	Marked improvement
45 Office work	6	12	22	+	+	+	110	115/60	Slight goiter	Soft, nodular moderate size	None	+68	Abscessed teeth, removed recently	Fetal adenoma with colloid goiter	Marked improvement
37 Road building	5	24	37	+	+	+	120	145/70	None noticed	Small nodular goiter	None	Not taken	Chronic tonsillitis	Slight hyperplasia	Marked improvement
43 Postman	2 wk.	5 wk.	15	++++	+	++	106	140/70	Large goiter congenital	Large, soft, vascular goiter recently grown smaller	None	Not taken	Abscessed teeth	Not operated on	Condition worse
43 Biochemist	1	3	8	+++	++	+	104	114/50	Goiter for number of years	Soft vascular goiter	None	Not taken	Abscessed teeth	Not operated on	Operation advised; after two months rest no improvement

time relation between the onset of the symptoms and the initial use of the salt. But even when these facts are taken into consideration, the relation between the use of iodized salt and the disease is so definite in the minimum number of cases, 25 per cent, as to leave little doubt as to its rôle.

REVIEW OF CASES

Because of the difficulties in collecting exact statistical information regarding these cases of hyperthyroidism *en masse,* it seems more conclusive to offer, as proof of the dangers of this salt, data from the group of cases in men, which first called our attention to this problem. Since individual case reports consume much space and include details not pertinent to our subject, the essential points in the history and examination of each patient have been grouped in the accompanying table. These patients were all in excellent health before the onset of toxic symptoms, and in only two cases was the iodine used because of a supposed need of the patient himself, the other patients being "innocent victims" of the general use of the salt in the family cooking.

A study of these cases revealed the following interesting features:

(*a*) With the exception of the postman, all the patients were engaged in mental work, and even in his case a sudden increase in the number of new names which he had to memorize was causing him a great deal of worry.

(*b*) There was a striking uniformity in age.

(*c*) The onset of symptoms was invariably associated with the use of iodized salt, being first noted from one to eighteen months after the use of the salt was begun.

(*d*) In most of the cases the first symptom noticed was loss of weight or marked weakness, particularly of the legs; the nervous and cardiac symptoms appeared later, the symptoms usually appearing in a reverse order in the noninduced form of hyperthyroidism.

(*e*) Exophthalmos was almost invariably absent, the ocular signs being limited to a staring expression.

(*f*) The thyroid differed markedly from the usual type, as it was almost invariably a small, firm and scarcely palpable gland rather than the usual palpable, vascular gland with thrill and bruit; in two of the exceptional cases, iodized salt had been used for the cure of the goiter.

(*g*) The pathologic report in these cases, usually "colloid goiter" or "very mild hyperplasia," was also strikingly different from that usually given in cases of hyperthyroidism; this circumstance is in accord with the conclusions of Reinhoff,[2] which will be mentioned later.

(*h*) The presence of foci of infection was demonstrated or suspected in every case, and it would be interesting to try to trace their influence in the production of the hypersensitive condition which can be so affected by iodized salt.

(*i*) The high incidence of this disease in men during the last six months, as compared with the very low incidence which our previous experience had led us to expect, has been very striking; the most plausible explanation that we can offer is the fact that men as a rule use a great deal of salt.

While these are cases of frank hyperthyroidism, presenting all the features of exophthalmic goiter, it is evident that they differ strikingly in many ways from the average male case of hyperthyroidism. Previous to the past year, such cases have rarely been seen in the Cleveland Clinic, although, on an average, 1,500 cases of hyperthyroidism are seen here annually. When, therefore, sixteen of these patients presented themselves within six months, every one of whom had used iodized salt, while during this time no cases of acute hyperthyroidism in men were seen who had not used the salt, the evidence seemed conclusive that iodine in this form would arouse even a normal thyroid gland to hyperactive secretion. In fact, after the riddle of the causation of this condition was solved, it was easy to astonish such a patient, when he had made a brief statement of his complaint, with the query: "How long have you been using iodized salt?"

In addition to these cases in which there seems to be no question that hyperthyroidism was induced, I wish to mention briefly other groups of cases which, although the symptoms and signs do not differ from the usual picture of this disease, seem to belong also in this category. We have been convinced that this is the case, not only by the great increase in the incidence of hyperthyroidism since the use of iodized salt has been in vogue, but also because in each instance the onset of the symptoms has followed shortly after the initial use of the salt.

Among these groups, that in which the evidence was perhaps most conclusive was composed of eighteen women between the ages of 45 and 65. Their histories were identical in almost every respect. In every instance the patient had had a large neck or a lump in the neck throughout adult life but had never had any trouble until a friend, the grocer, or an article or advertisement in a newspaper had persuaded her that iodized salt was good for goiter, and she had begun to use it in cooking. At intervals varying from two to twelve months, these patients had become very weak, had lost weight, had grown nervous and short of breath, and had developed palpitation and, in many cases, irregularity of the heart. Some of the patients had no conception between these symptoms and their goiters, and were jubilant over the fact that the latter had decreased in size with the use of the salt. Examination revealed a fetal or large colloid adenoma in every case, with the usual signs of hyperthyroidism, particularly degeneration of the heart muscle with decompensation. Auricular fibrillation was present in twelve of the eighteen cases. The basal metabolic rate was taken in nine of these cases and was found to range from plus 25 to plus 90. Thirty-two other patients might be included in this group of middle aged women with adenomas, but they had had symptoms before using the salt; in fact, each of them had used it because she had been told that her trouble was due to her goiter, and each hoped to be cured by using the iodized salt. The resulting exacerbation of the symptoms was so severe that an operation was necessary in each of these cases. Moreover, the cardiac decompensation was so marked in many of the cases that the operative risk was greatly increased. The medical profession has always considered that this type of goiter is extremely susceptible to the effects of iodine, and therefore has exercised great care in its administration; but unfortunately this precaution has been overlooked in the enthusiasm over the new "cure."

Another type of patient has also appeared at the Cleveland Clinic more frequently than usual during the last six months, a type of case in which it has always been thought that iodine could be administered almost ad libitum—young girls at the age of puberty, either with or without a struma. Five cases of outspoken and extremely severe hyperthyroidism in girls from 12 to 18 years of age have been seen during this period, and in all these cases the hyperthyroidism developed after the use of iodized salt was begun. Small fetal adenomas were present in two cases and moderately large, uniformly shaped goiters with a slightly increased vascularity in the other three. Besides these outspoken cases there have been a large number of patients in this age group who, having small goiters, have used iodized salt and have subsequently developed very mild nervous symptoms, and have noticed a decrease in their powers of endurance and in their efficiency. Although these cases are classified as adolescent colloid goiters, they seem to show a mild degree of toxicity.

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[2] Reinhoff, W. F.: Bull. Johns Hopkins Hosp. **37**: 285-305 (Nov.) 1925.

The recurrence of hyperthyroidism in three patients who had enjoyed good health from four to thirteen years after thyroidectomy was also attributed to the use of iodized salt. It should be noted that after an operation for hyperthyroidism patients are highly sensitized to iodine, and therefore special precaution should be exercised against its use in postoperative cases.

Very few cases of outspoken hyperthyroidism were seen in patients between the ages of 20 and 35, but there were many who, after using the salt, had suffered from nervous symptoms such as insomnia, irritability, depression, lack of concentration, emotional disturbances, sweating, flushing, palpitation of the heart, paroxysmal tachycardia, and had noticed a loss of weight and lack of endurance which could not be explained except as the effect of the iodine. This explanation seems the more plausible because some of these symptoms were the earliest ones in the cases in which a frank hyperthyroidism developed.

It may not be amiss to mention here two facts which have been noted in our dermatologic department within the last six months; first, that iodine rashes have been appearing frequently, and, second, that cases of acne vulgaris become much worse or will not respond to treatment while iodine is being used in the form of salt.

HISTORY OF GOITER TREATMENT

These many instances of unfavorable results following the use of iodized salt make us feel that it is surprising that any one would advocate its use. However, it is only natural that it should be advocated and advised when one traces the relation of iodine to goiter and sees how every step in the development of the latter seems to prove that small amounts of iodine administered in a natural way will solve the problem of endemic goiter. The early Greeks were the first to use iodine in the treatment of goiter. They used for this purpose the ashes of burnt sea sponges, which contain a large amount of iodine, but they did this without knowing the active element. It was not until 1820 that Coindet reported that goiter could be reduced in size by the use of iodine. In 1856, Chatin observed that goiter was very prevalent in localities in which the iodine content of the soil and water was low—probably because the solvent action of melting glaciers carries the iodine to the sea—and suggested that it could be prevented by supplying this deficiency. In 1896, Bauman discovered that iodine is stored in the thyroid gland in large quantities. In spite of these discoveries, however, very little was known regarding the action of iodine on the thyroid gland until 1907, when Marine[3] and his co-workers began their classic studies of the effect of iodine on the structure of the thyroid gland. They concluded that all thyroid hyperplasia was essentially the same and due to a lack of certain nutritional elements in the food, and that a resting state could be induced by the administration of iodine. As a result of this experimental work in animals, Kimball,[4] under the direction of Marine, began the systematic study of the prevention of simple goiter in man, by giving iodine in small amounts to several thousand school children in Akron, Ohio, from which he derived the following conclusions:

1. Simple goiter can be prevented by the administration of small amounts of iodine.
2. One third of the cases of uncomplicated simple goiter disappear or are markedly decreased by the internal administration of a small amount of iodine.
3. The administration of small amounts of iodine does not produce a toxic condition (exophthalmic goiter).
4. The administration of 2 Gm. of sodium iodide, twice yearly, is practical and economical and can be recommended as a public health measure in goiter districts.

This investigation led to great activity on the part of public health officials, and many methods were suggested for the efficient and economical administration of the iodine. Tablets containing definite amounts of iodine seemed to be the method of choice, but their use could not be made general or compulsory. Rochester, N. Y., tried putting iodine in the city water supply, but this did not seem practical, owing to the great waste. It was only natural that the addition of iodine to table salt should be tried, and in May, 1924, Michigan adopted a state law that all salt sold in the state should contain a certain amount of iodine. Goiter prevention was popularized by magazine articles, by instruction in schools and by medical lectures, until the laity has very generally gained the impression that small amounts of iodine can be taken with perfect safety. A circumstance that has tended to lead the profession to the unguarded use of iodine has been the apparent contradiction of the old idea fostered by Oswald and Crile that iodine acted unfavorably in cases of hyperthyroidism, by the discovery of Boothby and Plummer[5] that, when small amounts of iodine in the form of compound solution of iodine are given over a short period of time to patients suffering from hyperthyroidism caused by true hyperplasia and not by a toxic adenoma, they show a marked improvement, which is manifested both clinically and by the reduction of the basal metabolic rate. This discovery confirmed Marine's belief that iodine would cause the hyperplastic thyroid to return to the resting state, which in turn has been confirmed by Reinhoff, who studied the histology of the hyperplastic thyroid in man before and after the administration of iodine and found that the gland tends to assume the normal resting colloid state under iodine therapy.

COMMENT

All of the foregoing observations, at first glance, seemed to show that the problem of endemic goiter had been solved in a very easy and simple manner.

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[3] Marine, David; and Williams, W. W.: Relation of Iodine to Structure of Thyroid Gland, Arch. Int. Med. **1**: 349-384 (May) 1908.

[4] Kimball, O. P.: Am. J. M. Sc. **163**: 634-649 (May) 1922.

[5] Boothby, W. M., and Plummer, H. S.; J. Iowa M. Soc. **14**: 66-73 (Feb.) 1924.

However, as far as the use of iodized salt is concerned, the following factors must be taken into account:

1. Kimball and Marine worked entirely with children who, as a rule, are immune to the effects of iodine, whereas the use of iodized salt is generally not limited to children.
2. In Kimball's investigation, iodine was given periodically twice a year, thus allowing the thyroid a period of rest, whereas iodized salt is given continuously.
3. Kimball's conclusions were based on cases of simple and uncomplicated goiter, which, moreover, were observed frequently, whereas most cases of chronic goiter in adults are adenomatous in character, and these patients are not under observation while taking iodized salt.
4. Boothby and Plummer found the effect of iodine in cases of hyperthyroidism to be temporary and short lived and suitable only for the preparation of patients for operation. They found also that it was contraindicated in cases of hyperthyroidism due to toxic adenoma. Unfortunately, their work was eagerly accepted and not infrequently misinterpreted by enthusiasts, with the result that all kinds of goiter have been treated with compound solution of iodine. Many cases could be cited in which the thyroid gland has been hyperactivated in this way.

Both Dr. Crile and Dr. Phillips of this clinic are deeply interested in the subject, and they agree with me that, in view of the facts that have been cited, the community use of iodine may produce, especially in adults, an incidence of thyroid disturbance of greater economic importance than the evil it is designed to abolish, and that the general use of iodine will never be free from danger unless it is supervised by the medical profession, with safe standards for the administration of this potent drug. It seems to us to be necessary that a more thorough knowledge of what is known of the physiology and pathology of the thyroid gland be widely disseminated, lest a fundamentally sound movement for the prevention of goiter kill itself by its own boomerang. For this reason, it may not be amiss to append our own conclusions regarding the proper and safe use of iodine.

CONCLUSIONS

1. Iodine administered in small quantities, periodically, to children under the age of puberty is a very efficient preventive of simple goiter. Its use should be begun early and continued until puberty.
2. At the age of puberty, before iodine is prescribed, a careful examination of the thyroid gland should be made by a physician, to determine whether or not fetal adenomas are present. When adenomas are present, if iodine is used at all, it should be used with great caution, and in all cases the patient should be warned to discontinue the iodine should the usual symptoms of hyperthyroidism occur.
3. The continuous use of iodine over a long period of time should never be prescribed for adults, and when its periodic use is prescribed, frequent observations of the pulse and weight should be made.
4. Under no circumstances should iodine be administered to adults with fetal adenomas, either with or without symptoms of hyperthyroidism, except for a short period preceding operation. In the occasional case in which there is temporary improvement, the patient will be lulled to false security, and eventually a marked overactivity of the gland will result if the use of iodine is continued.
5. In the case of an adult patient who has a simple large colloid goiter or a large colloid adenomatous goiter without fetal adenoma, iodine sometimes has remarkably beneficial results and may be tried, but only with extreme caution, as it is this type of goiter that may become suddenly and overwhelmingly active, so that what appears one week to be a wonderful clinical result in every way may be a fulminating case of hyperthyroidism the next week, with a basal metabolic rate of plus 75 to 100, marked asthenia and a loss of from 5 to 10 pounds (2 to 4 Kg.) in one week.
6. If compound solution of iodine or iodine is administered in cases of exophthalmic goiter in which operation is not to be done, it should be discontinued or very greatly reduced when the basal metabolic rate is lowered and clinical symptoms improve. Continued use of the iodine will often again overactivate the thyroid gland.
7. Iodine should not be administered to a patient who has recovered after a thyroidectomy unless hypothyroidism exists, and even in these cases thyroid extract is usually more satisfactory.
8. Iodine is most efficiently administered and controlled in the form of chocolate tablets containing 10 mg. of organic iodine, or compound solution of iodine (Lugol's solution) when this is given under medical supervision. Periodic administration of iodine is always preferable.
9. Iodine may be administered in small doses to the pregnant woman for the prevention of goiter in the fetus. It is supposed to prevent fetal adenoma as well as colloid goiter. The amount of iodine required for this purpose is exceedingly small, and the best form in which to administer it is the chocolate tablet. Extreme caution must be used, as the thyroid gland is in a very unstable condition during pregnancy, and iodine may cause it to become hyperactive.
10. When overactivity of a thyroid gland has been induced by iodine, it usually does not subside when the iodine is discontinued, just as hyperactivity of the gland due to any other cause may not subside with the withdrawal of the exciting agent. In either case an operation is usually required.

In conclusion, I wish to state that this article is in no way a criticism of the principle of goiter prevention as a whole, for in this field lie untold possibilities for the future. The criticism is directed solely against the fallacious ideas regarding the use of iodine which have gained such wide publicity. Community administration of iodine disregards physiologic facts regarding the effect of iodine on the thyroid gland. The use of iodized salt, in particular, should be discontinued or limited absolutely to periodic table use by children under the age of puberty.

Euclid Avenue at Ninety-Third Street.

The Only Way to Joy and Enlightenment.—Sit straight and motionless, never inclining to the left hand nor to the right, never bowing forward nor turning backward. The ears should be in the same plane with the shoulders, and nose and navel in the same straight line. The tongue should stick to the upper jaw, while lip meets lip and teeth with teeth. Open the eyes not too widely yet not too slightly, and keep breathing through the nose. After composing mind and body in this way, you may take a long deep breath. Thus sitting motionless you may think of not thinking. Can you think of not thinking? This is thinking of nothing . . . it is the only way to great calm joy. This is unpolluted practice, and this is enlightenment.—Harada: The Faith of Japan, p. 89.

SALMON IN A DIET FOR THE PROPHYLAXIS OF GOITER*

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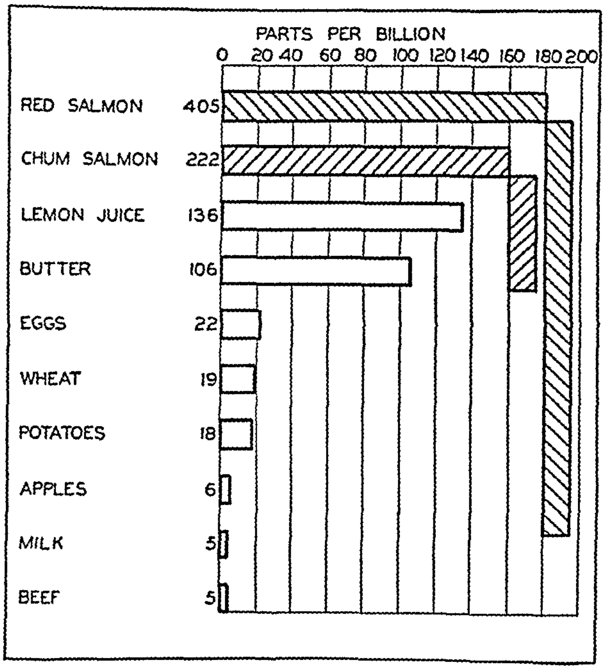
The researches of Chatin[1] on the distribution of iodine in nature, and his conclusion that goiter was due to a deficiency of this element, have been the subject of much discussion. It is now generally believed that iodine deficiency is the immediate cause of simple goiter, and that this disease is readily combated by a prophylactic treatment that supplies the amount of iodine necessary for the normal functioning of the thyroid. This may be accomplished by increasing the iodine in the diet by use of the proper foods, or by the administration of compounds of iodine.

Fellenberg[2] made a comprehensive study of the distribution of iodine in foods, beverages, soil and air. He found that the intake and excretion of iodine were approximately equal on a low iodine diet, but that, by the addition of iodine in such forms as cod liver oil, sardines, butter or potassium iodide, a positive iodine balance was obtained. McClendon and Hathaway[3] found that foods produced in goitrous regions contain less iodine than those produced in nongoitrous regions. They conclude that "the recession of goiter that has taken place in New York State during recent times is due to the greater transportation facilities for sea food into the inland regions."

Certain facts in support of the hypothesis that goiter is an iodine deficiency disease stand out in the observations of Keith[4] on goiter in the Pemberton Valley of British Columbia. This valley lies in the Coast Range Mountains, about ninety miles north of Vancouver. Every white child born in this valley had a goiter, and many white adults developed it within a few months after settlement there. Live stock suffered to such an extent from abnormalities of the thyroid that no litter of pigs lived more than one day after birth. There was a mortality of 90 per cent in calves and 85 per cent in colts from this cause. At the same time, no cases of goiter could be found among the inhabitants of an Indian village which had been located in the same spot in this valley many years before settlement by the white man; furthermore, these Indians have no knowledge or tradition of any of their tribe ever having had goiter. Clark and Pierce[5] show that the Indian is not racially immune to goiter. The pigs feeding in and around the village rarely suffer from myxedema or other diseases of the thyroid. In regard to the freedom of these Indians from goiter, Keith says, "Whilst considering the lack of goiter among these Indians I would like to draw attention to the fact that they eat a great deal of salmon . . . and annually cure thousands for winter use. Their pigs also eat the dead salmon washed ashore on the gravel banks of the stream. It is quite probable that the Indians and their pigs get enough iodine from the salmon to give their thyroids the necessary quantum of this element."

In the Great Lakes region, where goiter is endemic, butter is the most valuable local source of iodine.[6] We found that red and chinook salmon contain four times as much iodine as butter. There are other sea foods, such as lobster and oysters, that are higher in iodine content than salmon Indeed, seaweeds have the highest iodine content of any foodstuff.[7] But lobster and oysters are higher in price than salmon, and limited in supply. It has not yet been possible to induce the general public to use seaweed in any quantity American canned salmon is a staple food, produced in quantity; this, with its comparative cheapness and availability, renders it a very valuable food in a diet for the prevention of goiter The accompanying chart illustrates graphically the iodine content of two of the five species of salmon containing the highest and the lowest amounts of iodine, contrasted with that of milk, meat, eggs, vegetable and fruit products, highest in iodine.



Iodine in various food products (moist basis).

EXPERIMENTAL

When the iodine of a large number of food samples is to be determined, Tressler and Wells'[8] modification of Fellenberg's technic is most satisfactory. The method is capable of detecting very minute quantities of iodine. The apparatus required is inexpensive, and a considerable number of determinations may be made at one time.

The results of the analyses on canned salmon are given in the table. An attempt was made to secure samples from all the principal salmon canning districts. It will be noted that there is considerable variation between the species, and even some variation within the same species from different districts. In general, it has been found that as the salmon approaches the spawning stage, the iodine content of the flesh is decreased, apparently passing into the melt and roe, since these contain much more iodine than the flesh. The salmon used in such large quantities as food by the Indians of the Pemberton Valley were taken at this spawning stage. Even the flesh of these spawned-out salmon proved to be of great prophylactic value in an extremely goitrous region

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* From the Laboratories of the Northwest Branch National Canners Association, and College of Fisheries, University of Washington, Seattle.

[1] Chatin, A Compt rend Acad d sc, 1850

[2] Von Fellenberg, T Untersuchungen uber das Vorkommen von Jod in der Natur, Mitt a d Geb d Lebensmitteluntersuchung u Hyg **14:** 161 24, 1923.

[3] McClendon, J. F, and Hathaway, J C Inverse Relation Between Iodin in Food and Drink and Goiter, Simple and Exophthalmic, J A. M A **82:** 1668 1672 (May 24) 1924

[4] Keith, W. D. Endemic Goiter, Canad M. A J. **14:** 284 289, (April) 1924

[5] Clark, Taliaferro; and Pierce, C C Endemic Goiter, Pub Health Rep **29:** *939 948, 1914.*

[6] McClendon, J F · Personal communication to the authors, 1925· "Salmon is a very good food for its iodine content alone It is even better than butter from this region, which is our greatest local source of iodine "

[7] Turrentine, J W · Combating Goiter with Foods, Canning Age **6:** 977 981 (Dec) 1925

[8] Tressler, D K, and Wells, A W.: Iodine Content of Sea Foods, *Doc 967, Bur of Fish, 1924.*

Iodine Content of Canned Salmon by Species and by Districts

		Moist Basis		Dry Basis	
Species	District	Iodine, Mg per Kg	Iodine, Parts per Billion	Iodine, Mg per Kg	Iodine, Parts per Billion
Red (sockeye, blueback)	Ust Kamchatka (Siberia)	0 497	497	1 468	1,468
	Bristol Bay	0 422	422	1 432	1,432
	Cook Inlet	0 495	495	1 512	1,512
	S E Alaska	0 248	248	0 845	845
	Puget Sound	0 632	632	1 842	1,842
	Columbia River	0 140	140	0 392	392
	All districts	0 405	405	1 246	1,246
King (chinook, spring)	Yukon River	0 313	313	0 769	769
	Bristol Bay	0 470	470	1 437	1,437
	Cook Inlet	0 523	523	1,421	1,421
	S E Alaska	0 305	305	0 894	894
	Puget Sound	0 355	355	0 999	999
King (white)	Puget Sound	0 202	202	0 489	489
Chinook [illegible]	Columbia River	0 405	405	1 131	1,131
		0 368	368	0 957	957
		0 332	332	0 906	906
	All districts ..	0 364	364	1 000	1,000
Coho (medium red, silver)	Bristol Bay	0 303	303	1 019	1,019
	Cook Inlet	0 132	132	0 432	432
	S E Alaska	0 142	142	0 474	474
	Puget Sound	0 380	380	1 232	1,232
	Washington coast	0 119	119	0 445	445
	Oregon coast	0 162	162	0 586	586
	All districts	0 206	206	0 698	698
Pink (humpback)	Bristol Bay	0 135	135	0 486	486
	Cook Inlet	0 249	249	0 917	917
	S E Alaska	0 118	118	0 388	388
	Puget Sound	0 555	555	1 811	1,811
	All districts	0 264	264	0 900	900
Chum (calico, keta)	Yukon River	0 238	238	0 738	738
	Bristol Bay	0 362	362	1 247	1,247
	Cook Inlet	0 184	184	0 617	617
	S E Alaska	0 167	167	0 604	604
	Puget Sound .	0 258	258	0 905	905
	All districts ..	0 242	242	0 822	822
Grand average, all species, all districts		0 296	296	0 933	933

The salmon of commerce is packed at an earlier stage of maturity, when the iodine content of the flesh is considerably higher.

The iodine content of fresh salmon is approximately that of canned salmon produced from the same region. We found no apparent loss in the canning operations. The amount of iodine added in canning salmon by the one-fourth ounce of salt used per pound can is negligible. Those edible portions of the body richest in fat have been found to be highest in iodine content. Fresh salmon is now packed in ice, or frozen, and transported considerable distances inland; but this use of salmon is small compared to that of the canned product.

The correlation between low iodine content in soil, water and food, and the incidence of goiter, is well established. Iodine metabolism experiments indicate that even in goitrous regions a properly selected diet will prevent goiter.[9] Salmon has at least equal grounds for consideration with milk products, fruits and leafy vegetables, the materials used in these experiments and found of value in the prophylaxis of goiter. Our results indicate a much higher iodine content in salmon than Fellenberg found in milk products, eggs, leafy vegetables or fruits. A considerable portion of the iodine in fruits is contained in such inedible portions as the rind and seeds. Canned salmon consists only of the edible portion, in which all the iodine may be utilized

It appears that the systematic use of sea foods which are rich in iodine would be of considerable benefit in treatment of simple goiter, or for its prevention in goitrous regions. Canned salmon, on account of its cheapness and availability, is particularly suitable, and should be included in the diet of patients.

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[9] Von Fellenberg, T Untersuchungen uber den Jodstoffwechsel, I, Biochem Ztschr. **142**: 246, 1923

DOSAGE OF TOXIN FOR ACTIVE IMMUNIZATION AGAINST SCARLET FEVER *

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The method of immunization against scarlet fever recommended by the Scarlet Fever Committee requires five doses of 500, 1,500, 5,000, 15,000 and 20,000 skin test doses of toxin as a minimum, respectively, with an interval of one week between doses.[1] The requirement of five injections in addition to a diagnostic test before and after treatment is a serious drawback from a public health point of view. People are accustomed to three injections in typhoid and diphtheria immunization, and if scarlet fever immunization could be accomplished in this number it would be of great advantage.

This paper is a preliminary report of an attempt to determine whether it is possible to produce just as great, or greater, immunity from three as from five doses. This involved an effort to find the maximum dosage of scarlet fever toxin that could be administered without injurious effects on the individual, and the minimum dosage necessary to produce an immunity comparable to that resulting from an attack of scarlet fever. The effect of varying the time intervals between doses was also studied.

EXPERIMENTS

Dick tests were made on a group of persons, and those giving positive reactions were used for the immunization experiments. A small group was studied first to determine the safety of using a larger number of skin test doses than previously recommended, particularly in the second and third injections Following on the suggestive findings with this small number, a study was made of a group of ninety-seven persons, varying dosages and varying time intervals being used between doses. The dosage indicated as optimal in this group was then used in the immunization of a group of twenty-four susceptible persons.

Dosage and Time Interval— In all cases, the first dose was 500 skin test doses, since it has been found that initial injections of more than this amount frequently give quite severe reactions, such as headache, nausea and vomiting and also a scarlatiniform rash.[2]

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* From the Michigan Department of Health

[1] Official Communication, Scarlet Fever Committee, Jan 5, 1926

[2] Dick, G F, and Dick, Gladys H Results with Skin Test for Susceptibility to Scarlet Fever, J A M A **84**: 1477 (May 16) 1925.

The second injection varied from 2,500 to 5,000 skin test doses and was given one week after the first in one group and two weeks after the first in another group. The third injection varied from 10,000 to 40,000 skin test doses, and the interval between the second and third injections varied from one to three weeks.

Method of Injection.—Intramuscular injection of the scarlet fever toxin was employed after comparing this method with the subcutaneous one in groups of persons and finding, in general, a less severe local reaction from the intramuscular method. The toxin was injected deep into the deltoid muscle, a 1½ inch 22 gage needle being used.

Dick Tests After Treatment.—In order to determine the relative degree of immunity produced by the various methods of treatment, each person was tested with 1, 2, 5 and 10 skin test doses, respectively. A control test was also made on each person, a toxin with a potency of 5 skin test doses per 0.1 cc., which was heated at 100 C. for forty-five minutes, being used.

Toxin Used for Tests and Treatment.—Initial Dick tests were performed with a toxin standardized by comparison with a Dick toxin of known strength. It contained 1 skin test dose per 0.1 cc. of 1:2,000 dilution. For the final Dick tests after treatment, dilutions of this toxin were prepared so that 0.1 cc. contained 1, 2, 5 and 10 skin test doses, respectively. For the immunizing injections, Dick toxin was employed, which was tested before and after the period of experimentation, to check the number of skin test doses per cubic centimeter and to check the correctness of the calculated number of skin test doses in the various injections.[3]

Interpretation of Dick Readings.—The following interpretation is made in the recording of the Dick tests in the various tables: A reaction showing an inflammatory area of less than 1 cm. and greater than 0.25 cm. in diameter is considered ±, or a doubtful reaction. Reactions of 1 cm. and less than 2 cm., +; reactions of 2 cm. and less than 3 cm., ++; and those greater than 3 cm., +++. Tests showing an inflammatory reaction of 0.25 cm. or less in diameter are considered negative.

Table 1.—*Clinical Pathologic Changes Following Relatively Large Doses of Toxin for Third Injection.*

					Clinical Reaction			Laboratory Findings											Dick Test After Treatment			
								Urine Analysis			Hematology											
												Differential Leukocyte Count										
Number	Age	Initial Dick Test	Number Skin Test Doses Injected	Time of Observation	Temperature	General	Rash	Albumin	Sugar	Microscopic	Leukocyte Count	Neutrophils	Eosinophils	Basophils	Large Lymphocytes	Small Lymphocytes	Mononuclears	Blood Chemistry: Nonprotein Nitrogen	1 Skin Test Dose	2 Skin Test Dose	5 Skin Test Dose	10 Skin Test Dose
1	21	+	20,000	Before treatment..........	....	....	......	—	—	..	8,800	53	..	1	2	34	10	.....				
				After treatment (15-20 hr.)	99.0	....	?	—	—	..	15,000	75	..	2	1	18	4	.....	—	—	—	±
2	20	+	20,000	Before treatment..........	....	....	......	—	—	..	6,600	46	..	..	4	44	6	.....				
				After treatment (15-20 hr.)	99.8	....	......	—	—	..	11,400	67	..	..	3	19	11	.....	—	—	—	±
3	22	+	20,000	Before treatment..........	....	....	......	—	—	..	10,000	75	1	..	..	22	2	.....				
				After treatment (15-20 hr.)	99.6	....	......	—	—	..	11,600	77	..	..	..	21	2	.....	—	—	—	—
4	17	+	20,000	Before treatment..........	....	....	......	—	—	..	19,500	82	..	..	4	8	6	29.41				
				After treatment (15-20 hr.)	100.6	Headache	......	—	—	..	15,500	87	..	..	1	9	3	31.41	—	—	—	—
5	24	+	20,000	Before treatment..........	....	....	......	—	—	..	8,200	59	..	..	3	36	2	.....				
				After treatment (15-20 hr.)	99.2	Headache, nausea	......	—	—	..	9,000	65	1	..	2	26	6	.....	—	—	±	+
6	18	+	25,000	Before treatment..........	....	....	......	+	—	..	11,150	65	..	..	2	32	1	35.09				
				After treatment (15-20 hr.)	99.2	Slight nausea	......	—	—	..	14,200	70	..	..	1	26	3	28.98	—	±	±	+
7	17	+	25,000	Before treatment..........	99.2	....	......	—	—	..	7,400	59	1	..	2	30	8	.....				
				After treatment (15-20 hr.)	99.6	....	......	—	—	..	......	..	..	..	..	..	..	.....				
				After treatment (2 wk.)...	....	....	......	—	—	—	......	..	..	..	..	..	..	.....	—	—	—	—
8	17	+	25,000	Before treatment..........	98.4	....	......	—	—	..	6,700	54	..	..	6	24	16	.....				
				After treatment (15-20 hr.)	98.4	....	......	—	Trace	..	......	..	..	..	..	..	..	.....				
				After treatment (2 wk.)...	....	....	......	—	—	—	......	..	..	..	..	..	..	.....	—	±	±	+
9	25	+	30,000	Before treatment..........	99.0	....	......	+	—	..	8,700	57	3	..	2	32	6	.....				
				After treatment (15-20 hr.)	98.4	....	......	—	Trace	..	......	..	..	..	..	..	..	.....				
				After treatment (2 wk.)...	....	....	......	—	—	—	......	..	..	..	..	..	..	.....	—	—	—	—
10	24	+	30,000	Before treatment..........	99.4	....	......	+	—	..	7,000	69	..	..	3	26	2	.....				
				After treatment (15-20 hr.)	100.2	Headache	Slight	—	+	..	9,100	83	2	..	..	11	4	.....				
				After treatment (2 wk.)...	....	....	......	—	—	—	......	..	..	..	..	..	..	.....	—	±	+	+
11	21	+	30,000	Before treatment..........	98.2	....	......	+	—	..	6,000	62	3	..	3	21	11	.....				
				After treatment (15-20 hr.)	99.0	Malaise	......	—	—	..	14,000	87	2	..	1	6	4	.....				
				After treatment (2 wk.)...	....	....	......	—	—	—	......	..	..	..	..	..	..	.....	—	—	—	—
12	26	+	30,000	Before treatment..........	98.6	....	......	—	—	..	8,000	51	..	..	3	30	16	.....				
				After treatment (15-20 hr.)	99.4	....	......	—	—	..	17,200	70	2	..	2	18	8	.....				
				After treatment (2 wk.)...	....	....	......	—	—	—	......	..	..	..	..	..	..	.....	—	—	—	—
13	20	+	37,000	Before treatment..........	99.0	....	......	—	—	..	6,400	72	..	..	1	22	5	.....				
				After treatment (15-20 hr.)	98.4	Slight headache	......	—	—	..	12,200	73	1	..	..	18	8	.....				
				After treatment (2 wk.)...	....		......	Trace	—	Pus	......	..	..	..	..	..	..	.....	—	—	—	—
14	27	+	37,000	Before treatment..........	98.6	....	......	—	—	..	9,600	74	..	..	..	14	12	.....				
				After treatment (15-20 hr.)	98.8	Malaise	Moderate	—	Trace	..	19,600	93	..	..	..	6	1	.....				
				After treatment (2 wk.)...	....	....	......	—	Trace	—	......	..	..	..	..	..	..	.....	±	±	+	+
15	23	+	41,000	Before treatment..........	98.2	....	......	—	—	..	7,900	62	1	..	2	32	3	39.47				
				After treatment (15-20 hr.)	99.6	Headache	?	—	—	..	12,800	63	2	..	..	30	5	41.66				
				After treatment (2 wk.)...	....	....	......	—	—	—	......	..	..	..	..	..	..	.....	—	—	—	—
16	21	+	41,000	Before treatment..........	98.8	....	......	—	—	..	8,700	49	..	..	..	40	11	30.93				
				After treatment (15-20 hr.)	100.0	....	Slight	—	—	..	10,400	71	1	..	2	24	2	29.41				
				After treatment (2 wk.)...	....	....	......	—	—	—	......	..	..	..	..	..	..	.....	—	—	±	±

CLINICAL PATHOLOGIC REACTIONS FOLLOWING INJECTIONS OF TOXIN

The group of persons given from 20,000 to 41,000 skin test doses of toxin, as shown in table 1, had been given 500 and 1,500 skin test doses as the first and second immunizing injections. A one week interval elapsed between the first and second injections, and a three weeks interval between the second and third. The third dose of from 20,000 to 41,000 skin test doses was instituted following a preliminary series of injections in which the dosage had been increased up to 20,000 skin test doses without any injurious effects. It is to be noted from the clinical and laboratory findings that even with doses up to 41,000, no serious resulting pathologic condition developed. It was felt that the maximum dosage was being approached, particularly on account of the definite leukocytosis that developed following the larger injections.

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[3] The toxin for immunization used in these series of experiments was furnished through the courtesy of Drs. George F. and Gladys H. Dick.

TABLE 2.—*Summary of Dick Tests on Ninety-Seven Persons Following Three Immunizing Injections of Varying Dosage*

Number Skin Test Doses Third Immunizing Injection	Total Number of Persons Tested	Dick Test: Negative to 1 Skin Test Dose No.	Negative to 1 Skin Test Dose %	Negative to 2 Skin Test Dose No.	Negative to 2 Skin Test Dose %	Negative to 5 Skin Test Dose No.	Negative to 5 Skin Test Dose %	Negative to 10 Skin Test Dose No.	Negative to 10 Skin Test Dose %
40,000	3	25	100	23	92	21	84	16	64
30,000	21								
25,000	1								
20,000	28	24	86	21	75	14	50	13	46
10,000	44	36	81	32	72	19	43	18	40

DEGREE OF IMMUNITY FOLLOWING THREE INJECTIONS OF SCARLET FEVER TOXIN

A detailed study was made of ninety-seven susceptible persons in whom the dosage as well as the time interval was varied between injections. The most striking feature noted was the decrease in the frequency and the severity of general reactions including rashes, when the time interval between injections was extended to two or three weeks instead of the customary one week period.

From the results obtained, 5,000 skin test doses for the second injection and 30,000 for the third injection appear to be the optimal dosage. Table 2 gives a summary of the immunity developed, as shown by the Dick test, in a group of persons in whom the third dose was varied from 10,000 to 41,000 skin test doses. This group had been given 500 skin test doses on first injection and from 2,500 to 5,000 on second injection. Relatively little difference is to be noted in the apparent immunity developed when 10,000 and 20,000 skin test doses are used; however, with doses over 20,000 there is a marked increase in the percentage of negative Dick reactions.

TABLE 3.—*Relative Degree of Immunity Following Three Injections of 500, 5,000, and 30,000 Skin Test Doses, Respectively, of Scarlet Fever Toxin*

No.	Age	Initial Dick Test	Initial Immunizing Injection, No. Skin Test Doses	Second Immunizing Injection Two Weeks Following First: No. Test Test Doses	Second: Reaction General	Second: Reaction Local	Second: Reaction Rash	Third Immunizing Injection Two Weeks Following Second: No. Skin Test Doses	Third: Reaction General	Third: Reaction Local	Third: Reaction Rash	Dick Test Two Weeks After Third Injection: 1 Skin Test Dose	2 Skin Test Doses	5 Skin Test Doses	10 Skin Test Doses	Control
1	19	+	500	5,000	Slight headache	....	......	30,000	....	....	..	—	—	—	—	—
2	24	+	500	5,000	....	....	......	30,000	....	....	..	—	—	—	±	—
3	24	+	500	5,000	....	....	......	30,000	....	....	..	—	—	—	—	—
4	18	+	500	5,000	....	....	......	30,000	....	20 × 30 mm.	..	—	—	—	+	—
5	22	+	500	5,000	....	....	......	30,000	....	....	..	—	—	±	+	—
6	18	+	500	5,000	....	....	......	30,000	....	....	..	—	—	±	+	—
7	26	+	500	5,000	Slight headache	20 × 20 mm.	......	30,000	Malaise	30 × 50 mm.	..	—	—	—	—	—
8	22	+	500	5,000	....	....	......	30,000	Malaise	....	..	—	—	—	+	—
9	35	+	500	5,000	....	20 × 30 mm.	......	30,000	Headache	10 × 20 mm.	..	—	—	—	—	—
10	20	+	500	5,000	....	....	......	30,000	....	....	..	—	—	—	—	—
11	20	+	500	5,000	....	....	......	30,000	....	....	..	—	—	±	+	±
12	52	+	500	5,000	....	....	......	30,000	....	....	..	±	±	±	+	±
13	35	+	500	5,000	....	....	......	30,000	....	....	..	—	—	—	—	—
14	20	+	500	5,000	....	....	......	30,000	....	....	..	—	—	—	—	—
15	30	+	500	5,000	....	10 × 20 mm.	......	30,000	....	....	..	—	—	+	+	—
16	25	++	500	5,000	....	20 × 30 mm.	Slight	30,000	....	10 × 10 mm.	..	—	±	+	+	—
17	37	+	500	5,000	....	10 × 20 mm.	......	30,000	Headache	....	..	—	—	+	+	—
18	19	+	500	5,000	....	....	......	30,000	....	....	..	—	—	±	+	—
19	19	+	500	5,000	....	....	......	30,000	....	....	..	—	—	—	—	—
20	17	+	500	5,000	....	....	......	30,000	....	....	..	—	—	±	+	—
21	17	+	500	5,000	....	....	......	30,000	....	....	..	—	—	—	—	—
22	20	++	500	5,000	....	20 × 30 mm.	......	30,000	....	....	..	—	—	—	—	—
23	21	+	500	5,000	....	30 × 50 mm.	......	30,000	....	....	..	—	—	—	—	—
24	20	+	500	5,000	....	....	......	30,000	....	....	..	—	—	—	—	—

Table 3 shows in detail the clinical reactions as well as the results of the intradermal test in a group of twenty-four persons who had received 500, 5,000 and 30,000 skin test doses, respectively, with a two weeks interval between injections. It is to be noted that general reactions were mild, and in only one instance in this group was a rash noted. Local reactions were recorded in centimeters, according to the area of redness around the point of injection. The results of this series of injections on the basis of the final Dick tests agree very closely with the results obtained previously and summarized in table 2.

SUMMARY

In a group of susceptible persons just as great or greater immunity was produced with three as with five injections of scarlet fever toxin.[1] The dosage suggested by the findings is 500, 5,000 and 30,000 skin test doses, respectively, with an interval of two weeks between injections.[4] (This method of immunization is now in routine use in Michigan state institutions.)

The time interval of two weeks is considered important, as there seems to be less systemic reaction and greater immunity produced than with the usual one week interval.

Clinical and laboratory findings showed no injurious effects on the subject following the relatively large dose of toxin used in the third injection.

This investigation is being continued on a larger scale. Considerable data are already at hand which are not available for publication.

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[4] We have watched carefully for anaphylaxis when injections have been separated by two week intervals. Physicians in state institutions have reported only one case. A child, aged 10 years, showed marked urticaria, shortness of breath, prostration, and a temperature of 102 degrees. The symptoms all subsided in a few hours.

China's Two Systems.—China, which is one of the oldest civilized states of which we have any knowledge, possessed two systems of exercises, one which served as a training for war, and one for use in healing disease—in fact, a kind of medical gymnastics. In the oldest histories of the Japanese, Jews, Indians and Persians, physical exercises are also mentioned, and from Egypt we even have pictures showing the kind of exercises used there in the very early days.—Knudsen: A Textbook of Gymnastics, p. 1.

TREATMENT OF INFANTILE TETANY WITH A PARATHYROID EXTRACT

REPORT OF FOUR CASES *

LYNNE A. HOAG, M.D.
AND
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NEW YORK

In January, 1925, Collip and Leitch[1] reported marked clinical improvement in a case of infantile tetany treated by the administration of an extract of parathyroid glands. The method of preparation and the properties of this extract were later more fully described by Collip and his associates.[2] Hjort, Robison and Tendick,[3] working independently, confirmed the efficacy of the extraction method and duplicated many of the animal experiments.

Since the time when a preparation of this parathyroid hormone became available for experimental study, only four cases of infantile tetany have been seen in the clinic. The data from this small number of cases are insufficient to justify any general conclusions. The primary purpose in presenting the figures is to make them available to other clinics at the beginning of the season when infantile tetany increases in frequency, thus eliminating for them some of the preliminary work on dosage.

METHODS AND MATERIAL

The plan of study was to determine the dosage of parathyroid extract effective for the alleviation and cure of infantile tetany.

The parathyroid extract used was parathyroid extract Collip,[4] the potency of which was indicated in units defined by Collip[5] as "one one-hundredth of the amount of extract which will produce an average increase of 5 mg. in the blood serum calcium of normal dogs of approximately 20 Kg. weight over a period of fifteen hours." The hormone was always given subcutaneously.

The progress of the cases was followed clinically and by the estimation of the serum calcium concentration. There is so much variation in the accuracy with which different observers can elicit signs of mechanical and electrical hyperirritability that the greater reliance was placed on the laboratory measure of improvement.

The blood samples were secured after a minimum fast of four hours. The method used to estimate calcium in the serum was essentially that of Kramer and Tisdall.[6] Definite time intervals in each step were adhered to, thus assuring greater uniformity in the series of determinations. The serum inorganic phosphorus was analyzed by the method of Tisdall,[7] by means of which average normal figures of nearly 6 mg. per hundred cubic centimeters are secured.

The diet in three cases consisted of dilutions of whole milk. One patient (F. R.) still received breast feedings.

REPORT OF CASES

Case 1.—A. P., a negro boy, aged 8 months, weighing 19 pounds (8.6 Kg.), was admitted to the ward, March 25, 1925, for treatment of a facial eczema. Ten days later, he exhibited an inspiratory crow and had a positive Chvostek's sign. The clinical diagnosis of infantile tetany was confirmed, April 6, when the serum calcium concentration was found to be only 6.7 mg. per hundred cubic centimeters.

Case 2.—F. R., a white boy, aged 6 months, weighing 17½ pounds (8 Kg.), was brought to the hospital, May 2, 1925, for the treatment of generalized convulsions, with all the usual clinical signs of tetany lacking. No more convulsions were observed after this time. Four days later, he showed positive physical signs of tetany and, May 7, the serum calcium concentration was 7.1 mg. per hundred cubic centimeters.

Case 3.—M. B., an undernourished white boy, aged 8 months, weighed only 11½ pounds (5.3 Kg.) when he was sent to the hospital, Aug. 6, 1925, for treatment of a moderately severe infection of the upper respiratory tract. Two weeks later, August 19, he had a mild convulsion, followed the next day by an inspiratory crow and a day later by a positive Chvostek's sign. August 22, the serum calcium was 7.5 mg. per hundred cubic centimeters.

Case 4.—J. B., a white boy, aged 4 months, weighing 10½ pounds (4.8 Kg.), was admitted to the hospital, Oct. 24, 1925, for regulation of diet. During the next few days he had several attacks of noisy inspiration accompanied by cyanosis. October 29, the serum calcium was 5.6 mg. per hundred cubic centimeters, but in spite of this low concentration, none of the signs of mechanical hyperirritability were elicited.

RESULTS

When treatment was begun in case 1 no data were available to assist in selecting the proper dose for infants. The danger from hypercalcemia in dogs was known and impelled the selection of an initial dosage which was insufficient to raise the serum calcium. The subsequent dosages were more successfully chosen and uniformly induced clinical improvement and increased the concentration of serum calcium. The mechanical and electrical hyperirritability had usually entirely disappeared by the time the calcium in the serum had reached 9 or 10 mg. per hundred cubic centimeters. When an inspiratory crow was present, it disappeared more slowly.

In three cases, recovery was complete. In cases 2 and 3, relief occurred in two days and the patients have remained free from symptoms of infantile tetany for seven and three and one half months, respectively. Patient 4 was also relieved in two days, but he relapsed into a condition of tetany when the parathyroid extract was discontinued at the end of this time.

Patient 1 had a severe complicating bronchopneumonia and died sixteen days after the cessation of treatment with parathyroid extract.

COMMENT

It seems quite evident that the parathyroid extract was responsible for the favorable results in cases 1 and 2 over the periods shown in the table, because no other treatment was given during this time. The experi-

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* From the Department of Pediatrics, Cornell University Medical College, and the New York Nursery and Child's Hospital.

[1] Collip, J. B., and Leitch, D. B.: A Case of Tetany Treated with Parathyrin, Canad. M. A. J. **15**: 59-60 (Jan.) 1925.

[2] Collip, J. B.: The Extraction of a Parathyroid Hormone Which Will Prevent or Control Parathyroid Tetany and Which Regulates the Level of Blood Calcium, J. Biol. Chem. **63**: 395-438 (March) 1925. Collip, J. B., Clark, E. P., and Scott, J. W.: The Effect of a Parathyroid Hormone on Normal Animals, ibid. **63**: 439-460 (March) 1925. Collip, J. B., and Clark, E. P.: Further Studies on the Physiological Action of a Parathyroid Hormone, ibid. **64**: 485-507 (June) 1925.

[3] Hjort, A. M.; Robison, S. C., and Tendick, F. H.: An Extract Obtained from the External Bovine Parathyroid Glands Capable of Inducing Hypercalcemia in Normal and Thyreoparathyreoprivic Dogs, J. Biol. Chem. **65**: 117-128 (Aug.) 1925.

[4] Parathyroid extract (para-thor-mone Lilly), described in New and Nonofficial Remedies (J. A. M. A. **85**: 1559 [Nov. 14] 1925).

[5] Collip and Clark (footnote 2).

[6] Kramer, Benjamin; and Tisdall, F. F.: A Simple Technic for the Determination of Calcium and Magnesium in Small Amounts of Serum, J. Biol. Chem. **47**: 475 (Aug.) 1921.

[7] Tisdall, F. F.: A Rapid Colorimetric Method for the Quantitative Determination of the Inorganic Phosphorus in Small Amounts of Serum, J. Biol. Chem. **50**: 329 (Feb.) 1922.

mental value of case 3 was much decreased by the inadvertent exposure to ultraviolet irradiation about thirty-two hours before the third serum calcium determination. Falkenheim and Gyorgy[8] have said that the calcium in the blood is often temporarily decreased for many hours after the first ultraviolet exposure. It is felt that this treatment was not primarily responsible for the favorable outcome, because its repetition on the following day did not sustain the high calcium level in the face of a diminishing dose of parathyroid extract. In case 4 the administration of cod liver oil and calcium chloride for the period of a week may have influenced the results of the second and third courses of parathyroid extract, but no favorable effect was evident at the end of the seven days, as will be seen in the accompanying table

*Treatment of Infantile Tetany with Parathyroid Extract**

			Parathyroid extract Units	Mg in 100 Cc		
Case	Date (1925)	Hour	Subcutaneously	Calcium	Phosphorus	Comment
1 (8 6 Kg)	4/ 6	9 a m	—	6 7	—	Crow +, Chv +
		3 p m	5	—	—	Crow 0, Chv. +
		6 p m	5	—	—	—
		9 p m	10	—	—	—
		12 midnight	10	—	—	—
	4/ 7	3 a m	10	—	—	Crow 0, Chv. +
		10 a m	—	7 5	—	—
		4 p m	20	—	—	—
		7 p m	20	—	—	—
		10 p m	20	—	—	—
		12 midnight	20	—	—	Crow 0, Chv +
	4/ 8	3 a m	20	—	—	—
		10 a m	20	9 9	5 4	Crow 0, Chv 0
	4/ 9	2 p m	20	—	—	—
		9 p m	20	—	—	—
	4/10	11 a m.	20	9 5	—	Bronchopneumonia; intervening antitetany treatment with other agents
	4/29	—	—	—	—	Died
2 (8 0 Kg)	5/ 7	6 p m	25	7 1	5 7	Crow ++, Chv. 0
	5/ 8	2 a m	25	—	—	—
		11 a m	25	—	—	—
		6 p m	25	—	—	—
	5/ 9	2 a m	25	—	—	—
		9 a m	—	10 1	4 6	Crow +, Chv. 0
		6 p m	10	—	—	—
	5/10	9 p m	10	—	—	—
	5/11	10 a m	—	9 5	4 1	Crow 0, Chv. 0
		7 p m.	20	—	—	—
	5/13	8 p m	20	—	—	—
	5/14	7 p m	20	—	—	—
	5/15	8 a m	—	10 6	4 5	—
		7 p m.	20	—	—	—
	5/16	—	—	—	—	Discharged
	5/23	—	—	—	—	No symptoms or signs of tetany
3 (5 3 Kg)	8/19	10 a m	—	—	—	Muscle twitchings
	8/20	—	—	—	—	Crow +
	8/21	—	—	—	—	Crow +, Chv. +
	8/22	10 a m	—	7 5	4 1	Crow +, Chv +
	8/24	2 p m	—	7 3	5 1	Crow +, Chv. +
		3 p m	30	—	—	—
		12 midnight	30	—	—	—
	8/25	9 a m	—	—	—	Ultraviolet irradiation 4 minutes at 50 cm
		12 noon	30	—	—	Crow ±, Chv ±
	8/26	10 a m	30	—	—	Crow 0, Chv 0
		5 p m	—	11 0	—	—
		12 midnight	30	—	—	—
	8/27	10 a m	—	9 1	3 4	—
		2 p m	—	—	—	Ultraviolet irradiation 4 minutes at 50 cm
		4 p m	30	—	—	Crow 0, Chv 0
	8/28	9 a m	—	8 9	—	—
4 (4 8 Kg)	10/29	12 noon	—	5 6	8 6	Crow ++, Chv 0, per 0
	10/31	10 a m	25	7 2	9 2	Crow ++, Chv 0, per 0
		4 p m	25	—	—	—
		10 p m.	25	—	—	—
	11/ 1	4 a m	25	—	—	—
		2 p m	—	9 6	7 9	Crow +, Chv 0, per 0
	11/ 2	—	—	—	—	No treatment
	11/ 3	—	—	—	—	No treatment
	11/ 4	10 a m	—	6 6	—	—
		6 p m	25	—	—	—
		12 midnight	25	—	—	—
	11/6 to 11/11	—	—	—	—	Cod liver oil (16 cc) Calcium chloride (11 2 gm)
	11/10	5 p m	—	6 6	7 6	Crow ±, Chv ±
	11/11	6 p m	20	—	—	—
		12 midnight	20	—	—	—
	11/12	6 a m	20	—	—	—
		6 p m	20	—	—	—
	11/13	6 a m	20	—	—	—
		6 p m	20	—	—	—
	11/14 to 11/17	9 a m	—	8 9	7 1	Crow ±, Chv 0, no treatment
	11/18	10 a m	—	8 4	7 1	—
		2 p m	30	—	—	—
		8 p m	30	—	—	—
	11/19	2 a m	30	—	—	—
		8 a m	30	—	—	Crow 0
		6 p m	—	12 9	—	—
	11/20 to 11/27	9 a m	—	9 3	7 4	No treatment
	12/ 1	7 p m	—	—	—	Ultraviolet irradiation 2 minutes at 50 cm
	12/2 to 12/11	9 a m	—	10 8	7 7	Ultraviolet irradiations Discharged

* In the table, Chv, Chvostek (facial phenomenon); per, peroneal reflex

The size of the doses used, the intervals between injections, the varying severity of the disease and the differences in weight and state of nutrition all introduced so many variables that no definite standard of effective dosage for the parathyroid extract is computable from this small series of cases. The response of the infants to this hormone showed the same individual variation that has been noted as occurring in dogs.[9] This may be seen in the following summary, intended to show the unit-time dose necessary to cause a rise of 1 mg of serum calcium:

Patient 1 required approximately 5 5 units per kilogram in nineteen hours at three hour intervals

Patient 2 required approximately 5 2 units per kilogram in thirty-nine hours at eight hour intervals

Patient 3 required 6 units per kilogram at intervals of from nine to twenty-two hours over a total period of forty-eight hours

Patient 4 required in three successive series of parathyroid extract (1) 8 7 units per kilogram in twenty-eight hours at six hour intervals; (2) 10 8 units per kilogram in sixty-three hours at twelve hour intervals, and (3) 5 6 units per kilogram in twenty-eight hours at six hour intervals[10]

It is fairly evident that the greatest unit effectiveness is secured from this hormone when the total dose is given at fairly frequent intervals (from four to six hours) over a short period of time (from eighteen to thirty-six hours).

On the basis of the foregoing figures, it seems safe to recommend an initial dose of about 5 units per kilogram of body weight for each milligram of calcium rise desired, to be given subcutaneously at four to six hour intervals in from twenty-four to thirty-six hours. This is an arbitrary recommendation, and the effect should be observed by means of serum calcium determinations.

The fraction of the original total dose that is necessary in each twenty-four hours to sustain this normal calcium level cannot be predicted from the foregoing data It apparently varies from about one-eighth to one-fifth, and naturally decreases as the patient improves.

The effect of the abrupt omission of the hormone treatment was apparently dependent on the stage of the disease Omission early in the course (case 4) allowed a relapse, but this was not so evident on withdrawal of the extract after improvement had been maintained a few days.

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[8] Falkenheim C, and Gyorgy, P Zur Besthrahlungstherapie der Tetanie, Jahrb f Kinderh **107**: 201 210 (Nov) 1924

[9] Collip and others (footnote 2) Hjort, Robison and Tendick (footnote 3)

[10] Since the submission of these data, we have had the opportunity to administer parathyroid extract as the initial treatment in two more cases of manifest infantile tetany Case 5, A T, aged 4 months (5 Kg), required 4 units of extract per kilogram to cause each 1 mg rise in serum calcium, when given in thirty seven hours at six hour intervals in conjunction with a total dose of 2 Gm of calcium chloride by mouth Case 6, B M, aged 3 years (12 7 Kg), entered the hospital during his third attack of infantile tetany He required 9 units of parathyroid extract per kilogram to cause each 1 mg rise in serum calcium, when given at four to six hour intervals during a period of forty eight hours

A significant degree of hypercalcemia was not produced in any case.

SUMMARY

The subcutaneous administration of proper doses of parathyroid extract-Collip in four cases of infantile tetany caused rapid improvement in symptoms and signs and a prompt return to normal of the serum calcium concentration in from twenty-four to forty-eight hours. The continued daily administration of suitable fractions of this initial dose maintained this clinical and laboratory improvement. It is felt that a safe tentative dose is about five units of parathyroid extract per kilogram of body weight for each desired rise of 1 mg. of serum calcium, the total amount to be distributed over a period of from twenty-four to thirty-six hours at four to six hour intervals. The individual reaction is so variable that the effect should be estimated by means of repeated serum calcium determinations.

161 West Sixty-First Street.

Clinical Notes, Suggestions, and New Instruments

OXYGEN TREATMENT OF MALIGNANT EDEMA

R. P. Roantree, M.D., Elko, Nev.

In reviewing the literature on this subject, I can find no mention of a patient treated in this manner or a description of a simple apparatus that may be used in injecting the oxygen.

REPORT OF CASE

P. J., a muscular man, aged 26, entered Elko General Hospital, Sept, 6, 1924, complaining of a revolver wound of the left elbow. His past and family history are irrelevant. The injury occurred between 9 and 10 p. m., Sept. 3. The arm was cleansed and the wound irrigated with compound solution of cresol. The bullet had been removed from beneath the skin at about the middle of the mesial side of the arm by a layman. The wound was irrigated with compound solution of cresol twice on the 4th and three times, September 5.

The pulse rate was 85, the temperature, 99.6 F., and respirations, 22. There was a bullet wound in the palmar surface of the left forearm, at the junction of the upper and middle thirds. The bullet had been removed from the posterior surface of the left arm at the junction of the lower and middle thirds. The arm from well above and below the wounds was greatly swollen and was of a peculiar bronze color. There was crepitation about the wound both of entry and of exit, and this extended well up toward the left axilla. Roentgenograms revealed no bony injury. The films disclosed areas of decreased density beneath the wound both of entry and of exit, which were diagnosed as gas within the subcutaneous tissue. They appeared to be about 1 inch (2.5 cm.) below the skin surface. The gas beneath the wound in the forearm was small in amount and well localized. That beneath the wound in the arm was greater in amount and had dissected proximally to the axillary fold.

The urine was normal. A smear from the wound revealed a gram-negative bacillus. Unfortunately, no cultures were made.

Two consultants confirmed the diagnosis of gas bacillus infection. A disarticulation at the left shoulder was advised. This was carried out at once. No gas was encountered during the disarticulation. All subcutaneous soft tissue was removed as far proximally as possible.

September 7, the temperature was 100, the pulse 120, and respirations, 24. Careful palpation about the wound revealed no crepitus.

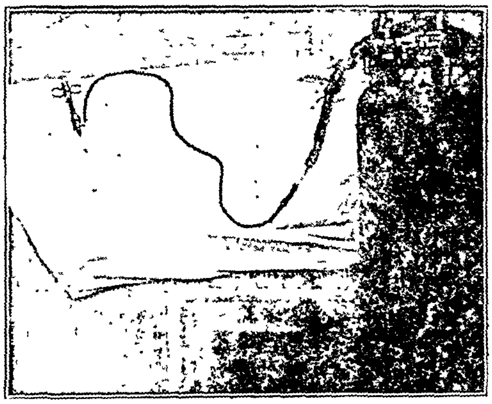
September 8, the temperature was 100, the pulse 120, and respirations, 20. There was some crepitation felt extending downward and anterior to the lower angle of the wound. Oxygen was injected subcutaneously at this time.

September 9, the oxygen injection was repeated.

September 13, there was a large discharge of bloody serum. The wound margins separated slightly because of tension caused by the oxygen. Crepitation persisted until September 29. Aside from the foregoing irregularities, the patient made an uneventful recovery and was discharged, September 29.

METHOD OF INJECTION

The usual large tubing on a Heidebrink gas-oxygen anesthesia machine was reduced by the use of rubber tubing to fit the one way valve on a Dunn's local anesthesia syringe, as shown in the illustration. The skin was prepared with iodine and alcohol for a liberal distance about the crepitant area and wound. The gas bag was filled with oxygen. The needle was introduced down to the ribs and intercostal muscles at a distance of about 6 inches (15 cm.) from the area of crepitation, and each layer injected as the needle was withdrawn. This was repeated until the crepitant area had been completely circumscribed. Following this, the interior of the circle was injected until the skin was tightly distended.



Heidebrink gas-oxygen anesthesia machine with Dunn's local anesthesia syringe attached.

SUMMARY

Results obtained in a single case are not conclusive. However, this experience leads one to believe that oxygen may be injected subcutaneously in large amounts without serious disturbance. This case is reported with the hope that it will stimulate the use of this method to determine its efficacy. The procedure has the following advantages over amputation or free incision: It saves the extremities; it may be used on all areas of the body; there are no resulting scars and less possibility of secondary infection; it may be carried out without anesthesia or the shock and pain accompanying several incisions.

SEVERE LACERATION OF HAND WITH TRAUMATIC AMPUTATION OF TWO FINGERS*

Martin J. Loeb, M.D., New York

History.—A boy, aged 8 years, was run over by a truck, June 29, 1923. Shortly after, on admission to the hospital, he was seen by two able surgeons, who happened to be in the institution, and who advised an amputation of the hand above the wrist. I mention this fact, not in disparagement of these men, but merely to give an idea of the severity of the trauma. I did not see the hand until the boy was under narcosis and ready for operation, two hours after the injury. My decision as to procedure was therefore immediately made.

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* From the service of Dr. Martin Rehling at the Bronx Hospital.

* Read before the Bronx County Medical Society, Jan. 23, 1924, at the New York University Clinical Society, March 7, 1924, and at the Eastern Medical Society, May 9, 1924.

Preoperative Findings.—The metacarpal bones of the ring and small finger of the right hand were broken, together with their attachments of muscles and nerves. The skin of the palm of the hand, together with the underlying palmar fascia, was torn off the hand, and these and the two traumatically amputated fingers were hanging from the hand, attached only by the web of skin between the ring and middle finger. The small adductors of the thumb were torn across, as were two tendons of the flexor sublimis of the middle and index finger (fig. 1).

Procedure.—The hand was thoroughly scrubbed with soap and water, followed by ether. Tincture of iodine was generously applied several times and each time washed off with alcohol. The adductor brevis pollicis was sutured, as were the sublimis tendons of the remaining fingers. The ring finger was denuded of its skin, and this piece of skin, which was attached by the web to the dorsal surface of the hand, was placed across the lower part of the palm (fig. 2). As this was done, the mass held by this bridge of skin fell off (fig. 1). The rest of the wound was left to granulate.

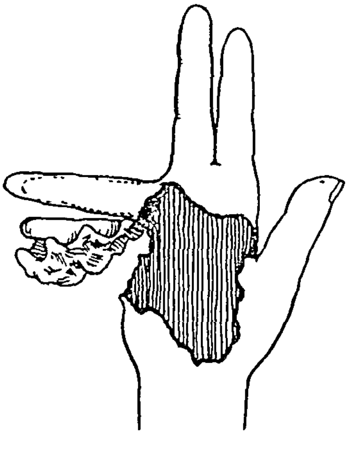


Fig 1.—Traumatic amputation of the ring and small finger of the right hand through the metacarpal bones: The skin of the palm as well as the underlying palmar fascia was torn off; some of the tendons were severed.

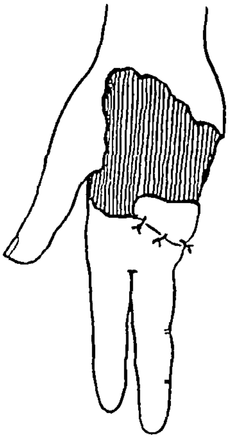


Fig. 2.—Skin of ring finger placed across palm; tendons sutured.

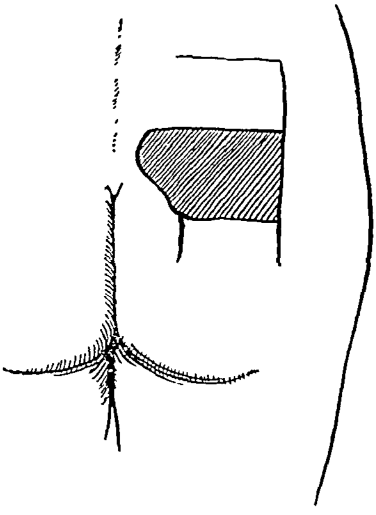


Fig 4.—Denuded area from which graft was made; incisions.

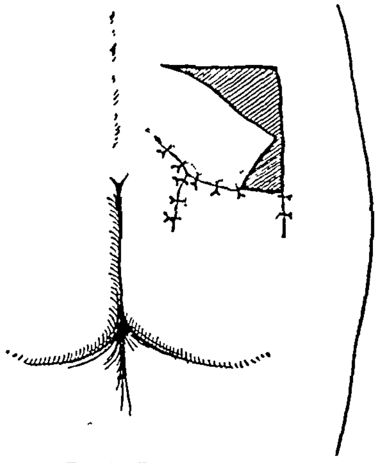


Fig. 5.—Bringing down of flap.

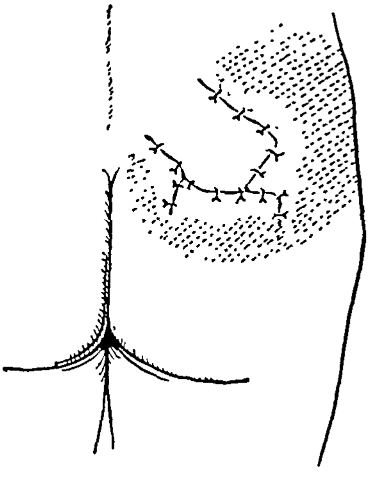


Fig. 6.—Undermined skin from abdomen and side brought backward to meet flap, defects of buttock completely covered.

July 20, the second operation was performed in the following manner: A pattern was made of the denuded area of the palm of the hand and this pattern marked out on the skin of the right buttock. The skin was then cut above and below about 5 inches in width and 3½ inches in length. The hand was then placed on the back, palm facing backward, and brought through this pocket of skin. The button-hole was made in the skin through which the thumb was taken through so as to have the denuded area between the thumb and the index finger in contact with the skin of the buttock. The patient was then placed in a plaster-of-paris jacket to keep his hand immovable in that position. The skin was attached at its edges to the palm of the hand with interrupted silkworm-gut sutures. A window was cut through the plaster of paris so that the hand could be dressed, if necessary (fig. 3).

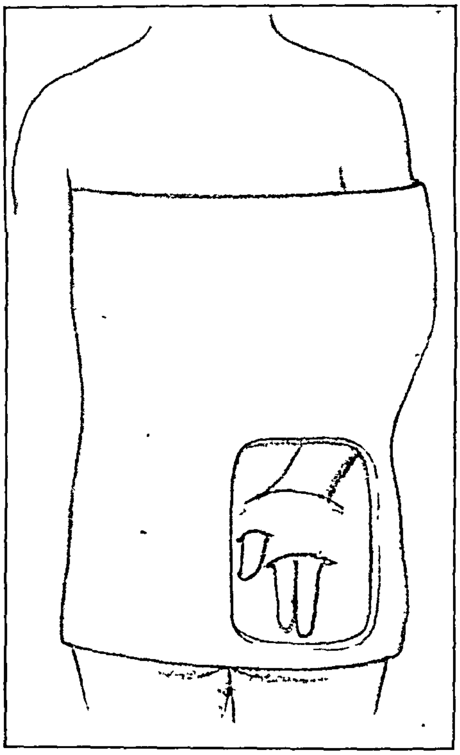


Fig. 3.—Skin of buttock undermined; denuded hand placed underneath; special opening made for thumb to cover denuded web between thumb and index finger; plaster jacket applied.

July 31, the wound was exposed through the plaster-of-paris window and the right edge of the skin lying over the palm was severed under local anesthesia (fig. 3).

August 10, the rest of the flap attached to the inner side of the body was severed, the hand was removed from its plaster encasement, and the skin was cut farther away from the edges of the wound to allow for contraction. The hand was bandaged and the patient turned on his abdomen. The area found to be denuded on the back was 4 by 5 inches, or about 20 square inches of surface. The flap was cut upward from the outer edge of the wound for about 5 inches. Then this incision was carried backward toward the spinal column, giving a quadrilateral flap of skin with an attachment toward the spinal column The skin of the abdomen was undermined, as well as the skin of the buttock. This flap was brought downward and attached partially to the skin of the buttock while the skin of the abdomen was brought backward as far as possible to cover up the defect that was made by the transplanting of the quadrilateral flap (figs 3, 4, 5 and 6)

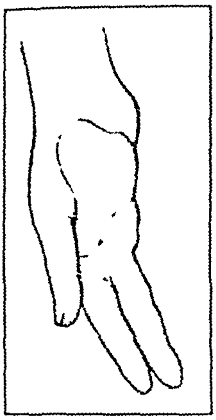


Fig. 7 — Hand as it appears now.

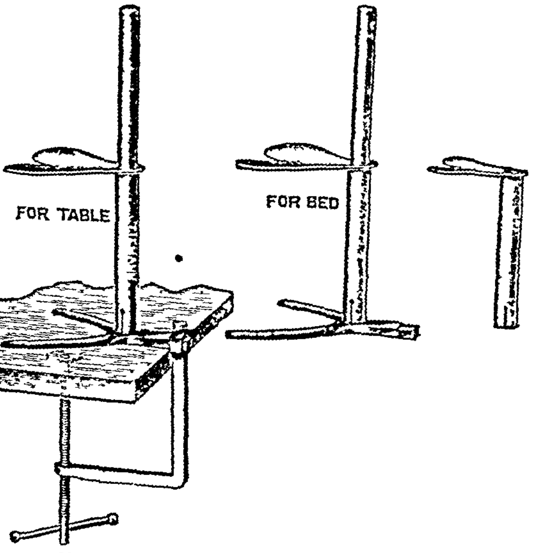
Result—Figure 7 shows the result of the graft. I might add that the patient has excellent function, the palm being wider above because I did not remove the upper fragments of the metacarpal bones, thus adding greater utility. The adduction of the thumb is perfect, and since I took very little adipose tissue with the skin, the cosmetic result is as good as the function

1475 Grand Concourse, Bronx.

MODIFIED HIP REST

David R Telson, M D, Brooklyn

The illustration shows a hip rest which can be applied with equal ease to the operating table, the examination table or any table found in the patient's home. The throat of the instrument is made deep enough to allow its application within the baseboard of the dining table Therefore, the necessity of clamping the rest on the very edge of the table, outside the baseboard, is done away with The clamp is detachable and, if need be, the rest can be laid flat on a board in bed. The pelvic plates are unique in being shaped to fit the sacrum, thus obviating the usual gap between the spica and the patient, posteriorly.



Hip rest that can be used for bed or table.

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Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

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(Continued from page 1285)

DOMESTIC MEASURES OF DOSAGE

On account of the ignorance of the average layman in regard to weights and measures, it is customary to direct patients to employ, for the administration of medicines, domestic measures with which they are familiar, such as

1 drop (abbreviation gtt Latin gutta)	About 0 05 cc[46]
1 teaspoonful	About 5 00 cc.
1 dessertspoonful	About 10 00 cc
1 tablespoonful	About 15 00 cc
1 wineglassful	About 50 00 cc
1 teacupful	About 100 00 cc
1 tumblerful	About 250 00 cc
1 knifepointful	About 1 to 2 Gm

Because of greater convenience in calculation of metric quantities, it is admissible to consider the teaspoonful 5 cc and the tablespoonful 15 cc. In view of the variability of all these measures, this is quite as correct as figuring on a 4 cc. teaspoonful, an 8 cc. dessertspoonful and a 16 cc. tablespoonful, or a wineglassful at 60 cc and a cupful at 120 cc., as is done when one uses the old system of weights and measures. In view of this inexactness of the domestic measures, it would be desirable to have them replaced by graduated medicine glasses

The size of the dose of the finished medicine, whether teaspoonful, dessertspoonful or tablespoonful, depends mainly on the solubility of the medicament. After this has been determined, the number of doses should be decided on, keeping in mind, first, the rule to prescribe generally enough to last from one visit to the next, and, secondly, to have the prescribed medicine just fill a bottle. It looks better. Hence we must know the various sizes of medicine bottles carried in stock by our druggists; they range as follows: 4, 8 and 16 cc (1, 2 and 4 fluidrachms) and 30, 60, 90, 120, 180, 240, 360, 500 and 1,000 cc. (1, 2, 3, 4, 6, 8, 12, 16 and 32 fluidounces) It is to be regretted that the druggists of this country do not yet carry a stock of metric prescription bottles However, we can hardly subject the average druggist to the hardship of keeping two complete assortments of bottles on hand. How soon pharmacists will change their stock of bottles, so as to carry only metric bottles, depends entirely on how soon physicians generally discard the old system.

As, in prescribing solutions, it would be rather difficult to estimate just how much of the vehicle is needed to fill a bottle of a certain size, for the solute replaces some of the solvent, it is customary simply to direct the pharmacist to use a sufficient quantity of the vehicle to make up the total volume desired; this is simply expressed by writing: "to make," which is then followed by the figure expressing the total volume. If, for instance, one wishes to prescribe fifteen doses of 1 Gm. of potassium bromide with peppermint water as the vehicle, and decides that a teaspoonful is to be the dose of the finished product, one writes:

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* This is the eighteenth of a series of articles on "The Technic of Medication" When completed the articles will be assembled in book form

[46] Only approximately correct in the case of aqueous fluids (see discussion on "Drop Dosage").

℞ Potassium bromide.............................. 15 Gm.
Peppermint water.. ....to make 60 cc.
Label: Teaspoonful in water every two hours

Had the phrase "to make" been omitted in this prescription, the volume of the finished product would exceed 60 cc. somewhat, as the dissolved salt occupies some space; and consequently each teaspoonful would contain a little less than the desired amount.

If the rule followed is to have the prescribed mixture aggregate just a bottleful, the number of doses prescribed is generally not convenient for figuring in the metric system. One way of overcoming this is to disregard the rule as to the prescribing of a bottleful, and to order 50, 100, etc., cc. mixtures, letting the druggist dispense them as best he can. Thus, for a time, patients would obtain only partially filled medicine bottles; and after a while the druggists would find it to their advantage to carry in stock metric prescription bottles.

For those who have learned the doses of medicines in the old system, and who desire to write metric prescriptions—as all should—the application of the assumption that 1 Gm. or cc. = gr. xv or ℳ xv[47] permits the following convenient rule to be formulated: Substituting for the number of grains or minims of the dose the same number of grams or cubic centimeters will give fifteen doses in metric terms. By this rule one is enabled to prescribe, without any difficulty, an ordinary bottleful, as 60 cc. (fifteen doses of 60 minims, or a teaspoonful) or 240 cc. (fifteen doses of 240 minims, or a tablespoonful) will fill a 2 or an 8 ounce bottle, respectively.

COMPUTATION OF "PER CENT" SOLUTIONS

It is easy to compute the strength of "per cent" solutions in the metric system. To prescribe 1 : 1,000 solutions, one simply uses as many milligrams of the drug as cubic centimeters of solution are desired: for 0.001 : 1 equals 1 : 1,000. Hence, to prescribe a 1 ounce bottleful of 1 : 1,000 solution, one uses 30 mg. (written 0.030 Gm.) of drug to 30 cc. of solvent; for a 4 ounce bottle (120 cc.), one uses 0.120 Gm.

A simple mathematical trick for quick calculation on making higher from lower dilutions is described by Fletcher:[48]

> The average civilized man can count two quite easily; for instance, he knows how to prepare a 40 per cent from one of 80 per cent by taking one part of the latter and making it up to two parts by adding an equal quantity of the diluent. This is the same thing as taking 40 parts and adding sufficient diluent to make 80. What is not generally realized is that all other dilutions can be prepared on the same *principle*; for example, a 30 per cent solution can be made from one of 50 per cent strength by taking 30 parts of the latter and making it up to 50; or a 40.25 per cent solution can be prepared from one of 79.5 per cent by taking 40.25 cc. of the latter and adding sufficient diluent to make 79.5 cc. That is to say, an x per cent solution can be prepared from a y per cent solution by taking x cc. of the latter and diluting it sufficiently to make y cc.
>
> The preparation of the other fractional dilutions is equally simple. As every one knows, a 1 in 10 solution (written 1/10) can be made from a 1 in 5 (1/5) solution by taking 5 parts of the latter, and diluting it up to 10 parts, but it is not generally known that all dilutions can be prepared in the same way; that, for instance, a 1/97 dilution can be made from a 1/8 dilution by taking 8 parts of the latter and making it up to 97. In short, a $1/x$ solution can be prepared from a $1/y$ solution by taking y cc. of the latter and adding sufficient diluent to produce x cc.

By this method the medical man can not only calculate quickly but do it "in his head."

Blacklock[49] calls attention to Stephens and Christopher's simple formula which shows the amount of diluting fluid necessary to add to 1 volume of fluid of percentage x in order to reduce that volume to the desired percentage y. The formula is $x/y - 1$, in which x represents the original percentage and y the desired percentage. Thus, to dilute a solution from 20 per cent to 5 per cent, one adds to each volume of solution $20/5 - 1 = 3$ of the diluting fluid.

The following formula can be used when it is necessary to prepare specified volumes of lower percentage from higher percentage:

> To prepare a specified volume z of a y per cent solution from an x per cent solution, take of the latter $\frac{z \times y}{x}$ volume and make up to z volume with diluting fluid. Example: To obtain 12 cc. of a 24 per cent solution from an 80 per cent solution, take of the latter $\frac{12 \times 24}{80} = 3.6$ cc. and make up to 12 cc. with diluting fluid.
>
> Fractional Dilution: To prepare a specified volume z of a $1/y$ dilution from a $1/x$ dilution, take of the latter $\frac{z \times x}{y}$ volume and make up to z volume with diluting fluid. Example: To obtain 60 cc. of a 1/100 dilution from a 1/10 dilution, take of the latter $\frac{60 \times 10}{100} = 6$ cc. and make up to 60 cc. with diluting fluid.

DILUTION OF DOSE BEFORE TAKING

Nearly all medicine should be freely diluted before taking: for, properly diluted, it will taste less and it will be better borne by the stomach. In case of medicines of very disagreeable taste, it is better to dilute with only a moderate amount of fluid, so as to lessen the quantity of nasty liquid that must be swallowed. On the other hand, the more irritating the medicine, the more it should be diluted. In the interest of economy, it is well to prescribe a spoonful just large enough to keep the solids in solution, and direct the patient to dilute the medicine just before taking the dose. In many instances, water suffices as the diluent. If one wishes to favor absorption, hot water or carbonated water may be used. To lessen tendency to produce nausea or vomiting, ice cold water, or, better still, ice cold carbonated water may be used. Because of the importance of carbonated water as a diluent for medicines, it is well to be familiar with all the various methods of imparting effervescence to medicines. The simplest of these is the use of carbonated water from siphon bottles (the so-called siphon seltzer). The official solution of magnesium citrate is an example of another way of charging medicament with carbon dioxide. This is a lemonade-like drink containing a little over 5 Gm. of magnesium oxide made effervescing by carbon dioxide under pressure. Of course, of this solution not less than a bottleful (360 cc.) should be prescribed. Effervescing powders prescribed like the seidlitz powders and effervescing salts (previously discussed) are other examples of how the same result may be obtained in a still different manner. Finally, the patient may add lemon juice just before taking his dose of medicament containing bicarbonate.

---

[47] In writing quantities in the old system, we must be very careful to use a distinctive method, because of the great similarity of the signs Gm. and gr. The symbol for grain, written with a small initial letter, should precede the number, which is given in Roman *numerals*. If there are fractions, these should always be stated as common fractions, never written as decimals even if they might be.

[48] Fletcher, William: Lancet 1: 223 (Jan. 29) 1921.

[49] Blacklock, B.: Lancet 1: 377 (Feb. 19) 1921.

Lemonade sometimes makes a pleasant diluent for medicine. Effervescing magnesium sulphate (N. F.) is, for instance, best given in an ice cold lemonade. Other diluted fruit juices, such as orangeade and grape juice, may also at times be used to advantage. Soup enables one to give medicines of purely saline taste, such as bromide, even without the patient's knowledge that he is getting medicine, if the medicinal salt is used instead of cooking salt. Sodium iodide may be added to sodium chloride and used in the salt shaker to season one's daily food, as in the treatment and prevention of simple goiter. Coffee and cacao may also be used as a disguising diluent, most especially of medicines of a moderate degree of bitterness, such as senna. Among colloidal diluents, milk is of especial value not only for disguising taste but also for lessening irritation. One must, however, be careful not to prejudice patients, especially little children, against such an important food as milk.

DOSAGE OF DRUGS

Next in importance to the selection of the proper drug, or even quite as important, is the determination of the proper dose. The proper dose is just enough to produce the desired effect in the patient for whom the medicament is intended with a minimum of undesired side-effects. Some remedies act differently in different doses, a small dose sometimes having exactly the opposite effect from that of a large one. The Pharmacopeia and the National Formulary give, in connection with each article that is likely to be used internally, the average dose for adults. These doses must not be regarded obligatory; they are merely intended as a guide to those unfamiliar with the drug or preparation. A physician may give less or more, according to his judgment; for the dose of a remedy must be varied in the same manner that the size of a coat must be varied to fit each person.

The "physiologic" dose is that amount which will produce slight but distinct symptoms in a normal person; in the textbooks it is generally stated as the maximum dose. When a powerful remedy is being given for the first time, it is better to begin with a smaller dose, the initial or minimum dose, unless the urgency of the case demands that a large dose be given. Cases occur in which the "maximum dose" of the textbooks is exceeded with positive benefit to the patient. The only dose that should not or only exceptionally be exceeded, and then with the greatest caution and every possible safeguard, is the minimum lethal dose, the smallest quantity known to have produced death in a human being. A toxic dose is one capable of producing marked derangement of the functions of the body.

The dose given in the textbooks is considered proper for adult males in the prime of life; the medicament, unless otherwise specified, is to be given by the mouth. There are many conditions that necessitate modifications of this dose.

1. *Age and Sex.*—The same amount of drug distributed through the tissues of a very large person must receive a greater dilution and hence have less effect than if distributed through the tissues of a very small one. Thus, the dose is nearly proportional to the weight, although in such calculations the weight of adipose tissue would have to be deducted, for fat is an inert tissue and does not count; similarly, allowance has to be made for dropsies. Women usually require relatively smaller doses than men, not only because they are generally smaller but also because they are more sensitive than men.

There is great difference between the weight of the child and that of the adult. Partly for this reason, and partly because certain tissues of the child differ in their susceptibility to drugs from those of the adult, the necessity arises for a very careful adjustment of the dose in the case of children. We must realize in this connection that there is no universally applicable rule for determining the dosage for children as a certain proportion of the adult's dose; for "the child is not merely a small adult," but has reactions to disease as well as to remedies that differ from those of the adult. This is indeed the justification for the existence of pediatrics as a specialty, and the reason why a pediatrician, knowing just what dose to give to a child irrespective of the dose of the adult, may have much better success than the physician who just goes by rule of thumb. Still, some such rule is necessary to serve the beginner for general guidance. Probably the simplest rule for the prescriber in the metric system is a modification of Cowling's rule, according to which the adult's age is taken as 25, and each year that the child has commenced as an even part of 25. According to this rule, for instance, a child of 4 (having commenced its fifth year) would require five twenty-fifths, or one fifth, of the adult dose. As it is often easier, instead of dividing by 25 to multiply by 4 and divide by 100, we may arrive at a child's dose by multiplying the adult dose by the child's age multiplied by 4, and then to divide by 100, which is done by simply writing the decimal fraction. Thus, if the adult dose of a substance, say sodium bromide, is 1 Gm., its dose for a child of 3, according to this rule, would be $\frac{4 \times 4}{100}$ or 0.16 Gm.

A still simpler way of applying this rule consists of adding to 100 cc. (which contains approximately twenty-five doses) as many adult doses as the child has years in its age plus one. Therefore, to 100 cc. (a 3 ounce bottle) we would add 4 Gm. of sodium bromide for a child 3 years of age.

As Cowling's rule errs somewhat in the direction of generally apportioning rather too small a dose, it will be seen that to apportion dosage for infants under 1 year, we may safely calculate the months as years and divide the result by 10 (instead of 12). Hence, for a child 3 months old, the dose of a substance whose adult dose is 1 Gm. would be one tenth of the dose calculated for a child 3 years old, or 0.016 Gm.

All these arbitrary rules require, however, modification in case of certain drugs. Thus, children are very susceptible to opium, which must be given in doses much smaller than those of the formula; while arsenic, bromide, belladonna and purgatives are usually well borne by children, and relatively large doses must be prescribed. Antitoxin has to be given in almost as large a dose to the child as to an adult, for it is in relatively much greater need of it than the adult, being so much less able to develop its own antitoxin.

As old age approaches, it is advised to reduce the dose somewhat, and to give to patients from 70 to 80 years of age about three fourths of the adult dose; after 85, about one half. There are exceptions to this rule, also; for old persons generally bear opium and stimulants very well, and often need large doses of purgatives.

(To be continued)

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SATURDAY, MAY 1, 1926

SCIENCE IN EVERYDAY MEDICINE

In the introductory chapters of a recent volume on scientific research and human welfare,[1] the writer remarked that nothing is more exasperating than to be compelled to witness a great tragedy which we know could be prevented if we could only do the right thing. Probably physicians in earlier times felt much the same way, he adds, when they saw their patients die by scores during some epidemic with which they were powerless to cope. Until the last half century, all who had to do with disease were so bound by the bonds of ignorance that they were well nigh powerless. For its own progress, one of the foremost ever present needs of medicine is the acquiring of new knowledge. Before rational progress in therapy can come about, the mystery of maladies of unknown pathogenesis must be dispelled. Physicians in the past were able only imperfectly to cope with infection and disease. It was not until trained research workers devoted themselves to a study of the fundamental causes of disease that real significant progress was made; more was then accomplished in fifty years than in all the past history of the world. This salient fact of the importance of the search for truth, the goal of investigation, needs to be reiterated frequently lest the medical investigator be allowed to lapse into indifference owing to the lack of appreciation and support from his so-called practical colleagues.

For this reason, too, it seems worth while to point repeatedly to the varied illustrations of what scientific investigation means for human welfare through medical enlightenment. A recent issue of The Journal will serve to furnish examples. Thus, Brown[2] of the Mayo Clinic has called attention to the fact that, as the outcome of studies in the domain of gastro-enterology, infestation with *Endameba histolytica* is far more common in the temperate zone than is generally suspected. As the endameba is transmitted by food and water, new problems attend the use of uncooked food and the drinking water supply in certain sections, particularly when one realizes that a single clinic has identified the parasite in 533 cases in five years under conditions in which only a small proportion of all the patients had stool examinations. Brown has formulated the advice that repeated examinations of stools are essential to the diagnosis of all forms of dysentery, and has pointed out requisites for correct differential diagnosis and probabilities of successful treatment. No amount of ordinary "bedside observation" could have established the important facts recorded in Brown's research.

Again, there is a record in the same issue[3] of the outbreaks of botulism within the past year. In the study of this the bacteriologist has awakened the medical profession to the reality of the menace, the quarters whence it may be expected, and the nature of the toxin. The immunologist has brought antitoxic treatment rapidly within the realm of successful accomplishment. This is a contribution not of the "practitioner" but of the laboratory investigator in relation to a danger not sufficiently appreciated heretofore. Intuition cannot successfully attack botulism. Similarly, the latest report of Graham[4] and his colleagues at the Washington University Medical School, St. Louis, on the development of their studies on cholecystography illustrates the dependence of a practical diagnostic technic on patient preliminary investigation. There was the long search for a substance, sufficiently harmless for introduction into man, that would be excreted by the liver in the bile and could be visualized through roentgenographic means. The organic chemist, the physiologist and the physicist were brought to the aid of practical medicine. The description of the possible application of a single new substance, sodium phenoltetraiodophthalein, in simultaneous cholecystography and tests of both hepatic and renal functions is the culmination not of accidental discovery but of prolonged laborious effort in several fields of scientific endeavor.

It is significant of the growth of the research spirit in this country that careful inspection of almost any issue of The Journal would disclose such illustrative helpful promotions of medical progress as have just been reviewed. Lee[5] has remarked that the altruism of men of medicine has become proverbial. Their heroism in investigating and treating disease is often put to the test, and is rarely found wanting. Their ideals are high, and they can be trusted to do what is within their power to put an end to the ills of suffering humanity. Yet it should be borne in mind that scientific medicine unaided has a well nigh impossible work before it. If it is to accomplish the final banishment of disease, Lee concludes, it must have the sympathetic cooperation and encouragement of mankind, in whose interests it continually labors.

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[1] Harris, F. S.: Scientific Research and Human Welfare, New York, the Macmillan Company, 1924.

[2] Brown, P. W.: The Nature, Incidence and Treatment of Endamebiasis, J. A. M. A. **86**: 457 (Feb. 13) 1926.

[3] The Frequency of Botulism: A Report of Outbreaks from 1922 to 1926, J. A. M. A. **86**: 482 (Feb. 13) 1926.

[4] Graham, E. A.; Cole, W. H.; Copher, G. H., and Moore, Sherwood: Simultaneous Cholecystography and Tests of Hepatic and Renal Functions, J. A. M. A. **86**: 467 (Feb. 13) 1926.

[5] Lee, F. S.: Scientific Features of Modern Medicine, New York, Columbia University Press, 1911.

DALLAS HOSPITALITY

When registration closed at the Dallas Session of the American Medical Association, April 23, with a total of 4,179 physicians in attendance at the session, the high point was reached for any medical convention ever held in the southern part of the United States. This climax marked the achievement of a pinnacle not only in numbers but also in scientific progress, hospitality and attention to the economic problems of medical practice.

The meetings of the House of Delegates were characterized by earnest and harmonious consideration of the problems of the day. The work of the Veterans' Bureau, the current litigation and legislation on alcohol, the presentation of expert opinion evidence in our courts of law, and the problems of medical and nursing education held attention equally with the more intimate details of organizational affairs within the American Medical Association.

The technical exhibits were beautifully housed in a structure that might well have been built specifically for the purpose. Under the same roof the scientific exhibit and the motion picture show attracted the attention of thousands of physicians, who were able to hear at first hand the results of recent investigations in laboratory medicine and to complete in the course of the week a rapid-fire course of postgraduate medical instruction. The majority of the scientific sessions of the various sections likewise were held in this structure. The clinics of Monday and the papers of the last three days attracted large audiences. Many of those in attendance expressed satisfaction with the acoustic properties and the comfortable arrangements of the halls devoted to this purpose. Of special significance in the scientific programs were symposiums on the respiratory conditions of childhood, on the surgery of the sympathetic nervous system, and on the disturbances of the heart, which outlined clearly the present status of knowledge in these fields. At the same time, the newer discoveries of medicine and of surgery relating to the use of new medicaments, of roentgen-ray, radium and physical therapy, and of new methods for the control of hypertension were not neglected. Finally, the programs of the scientific sections were marked by an unusual number of addresses devoted to methods of organization and to promulgation of the benefits of medicine on a large scale to the public.

Above all else, the Dallas Session was characterized by a form of interest and entertainment that has become proverbial under the name of "Southern hospitality." It seemed, indeed, that every citizen of the community had schooled himself in the thought that the week of April 19-23 was to be devoted to the care of the visiting physicians and their guests. The clubs, department stores, hotels, taxi-drivers, street-car employees—in fact, all lay organizations and individuals who came into contact with those attending the session—seemed to be willing to do everything in their power to see to it that the conventionist was served in the most exemplary manner. The organization of such extensive luncheons as the barbecue, at which some eight thousand guests partook of freshly slaughtered and roasted Texas cattle, the gift of Dr. Dean, and the Mexican luncheon tendered by the Dallas County Medical Society indicated a supervising skill on the part of the Committee of Arrangements which met with a universally grateful response. The lack of metropolitan entertainment facilities in a community the size of Dallas gave the Committee of Arrangements opportunity to provide unusual events for the delegates and visitors during the times when attendance was not required at the scientific or business sessions. The dinners, dances, receptions and the impromptu vaudeville held for large groups of visitors emphasized the social qualities of the annual session. The dispersion of the visitors after the scientific meetings, such as occurs in larger communities, was avoided to the interest of harmony and pleasant companionship for a far greater number than are ordinarily entertained in this manner at a medical convention.

The citizens of Dallas, the Committee of Arrangements. the press and the organizations of that city received the well merited thanks of the House of Delegates for the whole-hearted manner in which they took the American Medical Association into their hearts and made the Seventy-Seventh Annual Session not only the greatest medical meeting ever held in the South, but also one of the greatest ever held in this country.

HYPOGLYCEMIA AND CONVULSIONS

The manifestations of disease associated with an abnormally high content of sugar in the blood have long been the subject of serious experimental and clinical investigation, particularly in diabetes. If the development of scientific technic, notably micro-analysis of the blood, may be regarded as most largely responsible for the interest in hyperglycemia, it is probable that the study of the effects of insulin in the body has awakened an interest in the reverse condition of hypoglycemia. An unduly lowered level of circulating glucose in the blood is likely to be attended by characteristic symptoms often of menacing severity. Normal health thus seems to be concerned in no small measure with steering a path between the Scylla of hyperglycemia and the Charybdis of hypoglycemia.

In some respects the relationship between the blood sugar level and the appearance of symptoms is the same in various species.[1] Convulsive seizures occur when the hypoglycemic condition becomes extreme, and the pathogenesis of such conditions is indicated by the fact that administration of sugar has an antidotal effect. This is true whether the hypoglycemia is the result of overdosage with insulin or of extirpation of the liver and consequent exclusion of the glycogenic functions, as demonstrated by Mann and Magath.[2] It may still be debated whether the so-called hypoglycemic reactions can be explained entirely by the low content of blood sugar. Secondary associated detrimental factors may come into play; thus, one can imagine the accumulation of toxic substances rendered possible by disturbances in sugar metabolism. In any event, however, the menace of hypoglycemia, whatever its ultimate explanation may prove to be, is clinically a real one.

The history of medicine affords many illustrations of how the precise description of a pathologic entity has been followed by recognition of its previously unsuspected application to certain clinical conditions. Thus, recognition of the effects of experimental injury to the auriculoventricular conduction tissues of the heart was soon followed by new interpretations of various types of disturbed coordination of the heart beat. Similarly, the significance of hypoglycemia appears to be exemplified in certain somewhat obscure types of convulsions long known to occur in children at the outset of acute infections in particular. Josephs [3] of the Johns Hopkins University has furnished illustrations of the onset of convulsive attacks after short periods of fasting, often scarcely more than overnight abstinence from eating. Whereas in healthy children the sugar content of the blood may be little altered through such an alteration of the daily regimen so that the decrement does not exceed 15 mg. for each hundred cubic centimeters of blood, the febrile patients often exhibit hypoglycemia that reaches convulsive levels. Recurrent vomiting in children may have a similar provocation. Fever, though favoring the abnormal effects, is not, according to Josephs, necessary for the production of convulsions. The significance of the fever is probably twofold. In the first place, anorexia almost invariably accompanies the acute infections of childhood, and this anorexia may easily account for a period of fasting. The second effect of the fever is rather hypothetic. For some reason the children seem unable to mobilize their carbohydrate as rapidly as it is needed, with the result that the concentration of sugar in the blood falls. Fever, together with a short fast, has the effect of producing an attack, when simple fasting for the same length of time merely causes a lowering of the blood sugar. According to Josephs, furthermore, fever may either have an effect on the metabolism by diminishing mobilization of carbohydrate or, as seems quite probable, by increasing the rate at which the available carbohydrate is used up; or else it may merely render the child's nervous system more unstable, so that a lowered concentration of sugar in the blood, which under ordinary conditions causes no disturbance, would cause convulsions at the higher temperature. Ketosis is frequently an accompaniment of convulsions from fasting in acute infections, but the etiologic significance of the acetonemia remains doubtful.

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[1] Macleod, J. J.: Insulin, Physiol. Rev. **4**: 21 (Jan.) 1924.

[2] Mann, F. C., and Magath, T. B.: Am. J. Physiol. **55**: 285, 1921.

[3] Josephs, Hugh: Fasting as a Cause of Convulsions, Am. J. Dis. Child. **31**: 169 (Feb.) 1926.

BISMUTH COMPOUNDS IN ANTISYPHILITIC THERAPY

In addition to organic arsenicals and mercury compounds, preparations of bismuth have found a place in antisyphilitic therapy in the last five years. The usefulness of bismuth for this purpose seems to be assured, but there is pressing need of dependable evidence as to the sort of compounds of the element that are most likely to prove useful and as to the cases in which they should be applied. Arsenic and mercury are not uniformly or universally successful; there are cases known in practice as arsenic-fast or mercury-fast. To have an additional potent drug available for the attack in such resistant instances represents a distinct step toward progress. Not a few syphilologists already regard bismuth, properly used, as superior to mercury, though second to arsenicals, in the treatment of syphilis.[1] The spirocheticidal potency of bismuth seems to have been demonstrated in both the experimental and the clinical disease.[2] Current discussions center largely about the problems of the choice of therapeutic preparations, and to the mode of administration and their limitations and contraindications.

In a study sponsored by the Therapeutic Research Committee of the Council on Pharmacy and Chemistry of the American Medical Association, Cole, Farmer and Miskdjian have demonstrated anew that the use of suspensions of finely divided metallic bismuth is inadvisable, for such preparations tend to remain unabsorbed for long periods. This fact has been clearly established by roentgenographic observations, and at once warns against the danger of cumulative action of a toxic substance. The contention of French writers in particular, that insoluble bismuth salts must be injected biweekly in order to have a gradual, even absorption of the metal, is not borne out by these investigations. Insoluble salts of bismuth, such as the oleate, likewise failed to indicate worth-while absorption after injection deep into the lumbar muscles. The findings show that injections of metallic bismuth are dangerous and, if persisted in, will lead to cumulative absorption and possibly even to fatal results. The same is probably true, although to a lesser extent, of bismuth oleate. Bismuth salicylate likewise is not above this objection, and its use should be replaced by one of the more soluble bismuth salts—perhaps the potassium bismuth tartrate preparations. These salts, especially if injected intragluteally once a week, are probably not so likely to give rise to cumulative action. However, the patient should be observed closely, as even this salt is not above criticism so far as its absorption is concerned.

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[1] Discussion on Cole, H. N.; Farmer, H. L., and Miskdjian, Hagope: Intramuscular *Absorption of Some Insoluble Bismuth Compounds* as Revealed by the Roentgen Ray, Arch. Dermat. & Syph. **13**: 227 (Feb.) 1926.

[2] Levaditi, C.: Le bismuth dans le traitement de la syphilis, Paris, Masson et Cie, 1924. Gruhzit, O. M.: Bismuth Salicylate in Experimental Rabbit Syphilis, Arch. Dermat. & Syph. **13**: 195 (Feb.) 1926.

In contrast with arsenical therapy, the intravenous administration of bismuth compounds appears to be strictly contraindicated.[3] When suitable preparations are cautiously employed, undesirable complications, such as stomatitis or kidney involvement, can for the most part be avoided. Schamberg,[1] among many others, has voiced the belief that today bismuth is superior to mercury for the treatment of syphilis. In the animal experiments he has been able to destroy the spirochetes much more rapidly. Mercury and bismuth act the same on the kidneys, but in his opinion the bismuth is less toxic and more therapeutic. He thinks that it occupies a position between the organic arsenicals and mercury. It is Schamberg's custom to use intravenous injections of organic arsenicals and at the same time injections of bismuth. Cole, whose careful investigations lend weight to his views, frankly regards bismuth as a valuable drug in the treatment of syphilis, but he urges a conservative attitude until more evidence as to the precise effects of the drug is available. This caution is particularly advisable at a time when the urge to use all manner of secret commercial preparations persists. As Cole and his colleagues insist, granting that bismuth is a somewhat dangerous drug to employ in treating the human organism, surely some criteria should be evolved as to the safest, most potent and at the same time most practical preparation of this metal to be used in treating syphilis. Undeniable limitations have already been placed on record for certain types of bismuth preparations.

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[3] New and Nonofficial Remedies, 1925, p. 74.

Current Comment

JABEZ NORTH JACKSON—PRESIDENT-ELECT

The election of Dr. Jabez North Jackson of Kansas City, Mo., to the position of President-Elect of the American Medical Association is the recognition of a favorite son of the great Southwest whose claims to the honor have been presented to the House of Delegates on previous occasions, indicating the continued high esteem in which he is held by his fellow physicians and their unwavering loyalty to him. Dr. Jackson was born in Labadie Mo., Oct 6, 1868, the son of John Wesley Jackson and Jennie Clark North. His father was, at the time of his death, Vice President of the American Medical Association. As chief surgeon of the Wabash Railroad, he had played a prominent part in opening up the Southwest and in its progress. After receiving his A.M. degree from Central College, Fayette, Mo., in 1890, Dr. Jackson attended the University Medical College in Kansas City, receiving his degree in medicine from that institution in 1891. He then went for postgraduate study to the New York Polyclinic, returning to take the position of demonstrator of anatomy in his alma mater, which he held until 1895. He succeeded to the professorship of anatomy, occupying that chair until 1898, when he became professor of surgical anatomy and adjunct professor of surgery. In 1899, Dr. Jackson married Virlea Wayland of Salisbury, Mo. His continuous development in surgical technic was recognized by his appointment to the chair of professor of principles and practice of surgery and clinical surgery in 1900, which position he occupied until 1911. Dr. Jackson became interested early in the work of the National Guard, serving as assistant surgeon, and later as surgeon, of the Third Regiment of the Missouri National Guard from 1893 to 1898, and as major and brigade surgeon of the United States Volunteers in charge of the Second Division Hospital of the Second Army Corps during the Spanish-American War. From the beginning of his medical career, Dr. Jackson has been interested in the affairs of medical organization. He was president of the Medical Association of the

Jabez North Jackson, M.D.
President Elect of the American Medical Association

Southwest in 1898, of the Kansas City Academy of Medicine in 1900, of the Missouri State Medical Association in 1904, and of the Western Surgical Society in 1913. He also has been prominent as a member of the Missouri Valley Medical Society and of the Pan-American Medical Congress. His name is associated with many discoveries in surgical technic, and particularly with the elucidation of "Jackson's membrane" and associated surgical conditions.

"GLOBOID BODIES"

The demonstration of the occurrence of so-called filtrable or ultramicroscopic viruses, microbic agents responsible for the transmission of disease but not visible through the ordinary modes of microscopic examination, has paved the way for consideration of all sorts of intermediate types. Analogous to the existence of nonliving matter in states of aggregation varying from substances in true solution to "colloidal" solutions or even more or less homogeneous suspensions, it has become easier to conceive of animate forms capable of reproduction and existing in an almost equally varied range of aggregate sizes. In 1913, Flexner and Noguchi actually applied the expression "globoid bodies" to minute spherical forms that they believed were cultivated from the filtrable virus of poliomyelitis. Comparable statements have been made in relation to other diseases; recently, for example, Duval and Harris[1] have described a "globoid micro-organism" in cultures of the blood from dengue fever. The "bodies" in question measure a small fraction of a micron in diameter and require special technic for their visual demonstration. It has also been asserted within the last decade that certain bacteria, notably aerobes, may develop anaerobically as minute forms. On the other hand, bacteriologic investigators have maintained that all such minute structures are artefacts, such as sphere-crystals. Sometimes they remain dispersed in a complex colloidal system represented by certain mediums, only to undergo a crystallization or separation in concrete form under the influence of inoculation. It is possible, indeed, to imitate microbic growth by "inoculating" supersaturated solutions with a few crystals. Interest in these phenomena was popularly accentuated through the widely heralded studies of Barnard and Gye in England on the alleged virus of cancer. The "organisms" dealt with by them were visualized through special ultramicroscopic devices. Harris[2] of the Department of Pathology at Tulane University in New Orleans has lately defended the existence of truly animate entities in the form of "globoid bodies." He states that the inoculation into guinea-pigs of cultures containing these globoidal micro-organisms, obtained from the blood of patients infected with dengue fever, reproduced the febrile and leukocytic reactions present in this disease. Harris admits that there exist certain artefacts which resemble the colonization observed for globoid bodies, but these are inanimate structures and can be differentiated from the living micro-organismal forms. Hence Harris believes that globoid bodies are minute living micro-organisms of a much smaller size than the usual small recognized forms. They have a definite structure consistent with true micro-organisms. They can be grown in cultures which, when inoculated into the experimental animal, reproduce the disease from which they were primarily isolated.

NEW YORK'S NEW MEDICAL PRACTICE ACT

The House of Delegates, at Dallas, unanimously adopted a resolution thanking Governor Smith of New York for his interest in the protection of the people against quackery and urging him to approve the medical practice act just passed by the legislature. The act, which has had the support of the Medical Society of the State of New York, requires every physician to register annually and to pay a fee of two dollars, on or before January 1. A list of the physicians so registered is to be sent to each registrant in March, with a request that he report every known practitioner of medicine whose name is not listed. Registration fees are available for the enforcement of the act. The Board of Regents, the licensing body, is authorized to appoint inspectors to enforce the law throughout the state. Prosecutions are to be by or under the direction of the attorney general, and not by local district attorneys as at present. A "committee on grievances" is to be appointed by the Board of Regents, consisting of seven licensed physicians appointed from lists submitted by the Medical Society of the State of New York, the New York Homeopathic Society and the New York State Osteopathic Society, and three appointed independent of such nominations. This grievance committee may hear all charges against licensed physicians looking toward the revocation of their licenses. It merely reports its findings and recommendations, however, to the Board of Regents. The board may accept or modify the findings and recommendations of the committee, and in any case the defendant may appeal to the courts. The grievance committee may act as a board of arbitration in controversies between two or more physicians, or between a physician or physicians and any other person, if the parties so request. The new law, correcting a condition disclosed by a recent decision of the New York Court of Appeals, provides that in an action for damages for personal injuries or death against an unlicensed person, arising out of an act or acts constituting the practice of medicine, the fact that such person was practicing without license shall be deemed prima facie evidence of negligence on his part. An alien seeking a license to practice medicine must have declared his intention of becoming a citizen, and if he fails within six years from the date of such declaration to furnish evidence of naturalization, his license terminates. In view of the time and energy that have been devoted to the drafting and enactment of this law, the profession will look forward with interest to the results accomplished by it. The physicians of New York are apparently almost unanimous in their belief that, when effective, it will do much to protect the public against medical vagaries.

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1. Duval, C. W., and Harris, W. H.: J. Exper. Med. **40**: 835 (Dec.) 1924.
2. Harris, W. H.: Globoid Bodies and Their Occurrence in Cultures, Proc. Soc. Exper. Biol. & Med. **23**: 278 (Jan.) 1926.

PROCEEDINGS OF THE DALLAS SESSION

MINUTES OF THE SEVENTY-SEVENTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT DALLAS, TEXAS, APRIL 19-23, 1926

(Concluded from page 1297)

HOUSE OF DELEGATES

Second Meeting—Tuesday Morning, April 20

The House of Delegates was called to order at 9:30 a. m. by the Speaker, Dr. Fred C. Warnshuis.

Supplementary Report of the Committee on Credentials

A supplementary report of the Committee on Credentials was submitted by the Chairman, Dr. J. D. Brook, Michigan, who reported that there had been filed with the committee credentials totaling 141.

There being no objections, the supplementary report of the Committee on Credentials was received.

Report of Reference Committee on Sections and Section Work

Dr. Tom B. Throckmorton, Section on Nervous and Mental Diseases, read the report of the Committee on Sections and Section Work:

1. The Reference Committee on Sections and Section work begs to report that it has carefully read and discussed the report of the Council on Scientific Assembly as printed on pages 121-123, inclusive, of the Official Hand Book, and presented in substance by the Chairman, Dr. J. Shelton Horsley, and recommends that the report of the Council be approved in its entirety.

2. The committee is in full accord with the traditional custom of the Council in its method of assigning the hours of the sections so as to alternate the time of section meetings from year to year.

3. The Reference Committee on Sections and Section work feels that the Council on Scientific Assembly has given an attentive ear to requests made for the creation of a new section on physical therapy and that the Council has acted most wisely and judiciously in unanimously adopting the policy of nonrecommendation of such request until it has been amply shown that the need for a separate section on physical therapy actually exists.

4. The committee feels that the Council on Scientific Assembly was amply justified in not recommending the reestablishment of a section on stomatology, and that the suggestion of the Council that papers dealing with stomatologic subjects be assigned for presentation in the Section on Miscellaneous Topics was fair and was actuated for the best interests of the Association.

Respectfully submitted.

J. L. Rothrock,
W. P. Eagleton,
W. G. Ricker,
Tom B. Throckmorton,
Chairman.

Dr. Tom B. Throckmorton, Section on Nervous and Mental Diseases, moved that the report be adopted.

The motion was seconded by Dr. Albert Soiland, California, and carried.

Report of Reference Committee on Medical Education

Dr. F. B. Lund, Massachusetts, read the report of the Reference Committee on Medical Education:

The report of the Council on Medical Education and Hospitals records the figures of the Council's activities during the last year. It is a record of industrious work in the line of its previous reports and of enormous responsibilities.

These activities in general the committee approves.

The improvement in the facilities for graduate instruction as a direct result of its labors is also of great value and importance.

The inspection of hospitals has resulted in perfecting facilities for the intern training to 4,683 graduates, and in the corresponding improvement of and advantage to the hospitals themselves.

The value of the elimination of hospitals where unethical practices are carried on is self-evident.

The list of the colleges of arts and sciences which are adequate to provide premedical training is also an extension of the Council's work which is of great value and importance in the guidance of those intending to make medicine a career.

The list of clinical laboratories ought to prove of great value to practitioners by enabling them to get work done that is of no value unless it is done well, but when well done and accurately done is of the greatest value.

But, owing to the immense extent of the work involved, in the opinion of the committee, it is important to secure the cooperation of every state medical society and its component societies in order to compile a complete and adequate list of clinical laboratories.

In regard to the facilities for the enrolment of medical students, a serious question is raised in the minds of your committee as to whether properly qualified students are now able to secure enrolment in medical schools, and we are glad to note that an investigation is now being made with this as its object.

Age at graduation ought to be reduced, and the committee recommends to the Council on Medical Education and Hospitals that further efforts be made to reduce the average age at graduation. In this connection the committee recommends that the resolution introduced by Dr. Southgate Leigh, Virginia, be adopted; namely, that the House of Delegates request the Council to consider the feasibility of allowing medical students credit for courses taken during the summer months, in a manner similar to the plan followed in the academic departments. The Council is further requested to confer with the various medical schools, asking their cooperation in this important movement.

In regard to nursing education, your committee regards with great approval the resolution introduced by Dr. E. Eliot Harris of New York, and recommends its adoption and enforcement.

Resolved, That there is a great need throughout the country for a basic trained nurse, and that all pupil or student nurses shall receive basic training in training schools connected with hospitals giving courses of two years. The curriculum should be thoroughly revised so as to provide bedside instruction, class room lectures and demonstrations and, above all, the teaching of the art of nursing by precept and example so as properly to fit the pupils or students for their work as nurses in the hospitals and in the homes

Graduates, after passing the state examination, should be registered as trained or, if preferred, registered nurses. Such trained or registered nurses may become public health or other specially designated nurses after being properly admitted to postgraduate schools for nurses and passing the required examination

Resolved, That the Board of Trustees appoint a committee on nurses and nursing education to investigate and report to the next House of Delegates the results of its investigation and constructive thought on the nursing question and especially on the subject of increasing the number of bedside nurses throughout the several states; the Committee on Nurses can be empowered to confer with the National Nurses Association, hospitals and other committees having similar objects.

In the report of the Council, on page 116, in the fine print, the committee feels that the phrase "under the orders of the physician or the regular staff of the hospital" should be changed to "of a reputable physician practicing in the hospital." This change is recommended in order to provide for reputable hospitals which admit private patients under the care of physicians not on the regular staff, the so-called "open hospital."

J. N. Hunsberger,
W. A. Pusey,
B. R. McClellan,
F. B. Lund,
Chairman.

Dr F. B Lund, Massachusetts, moved that the report be adopted The motion was seconded by Dr. I. A. Abt, Section on Diseases of Children, and carried.

Report of Reference Committee on Legislation and Public Relations

CONTRACT PRACTICE

Dr H. M Brown, Wisconsin, stated that the Committee on Legislation and Public Relations had four bills brought before it, one by Dr A. D. Dunn, Nebraska. The report on the resolution is that the committee recognizes the need of action and recommends that the Board of Trustees be requested to furnish the Judicial Council such assistance as may be necessary for the proper prosecution of the work and recommends the passage of the resolution.

Dr H M. Brown, Wisconsin, moved that the resolution be adopted The motion was seconded by Dr. W. D. James, North Carolina, and carried.

MEDICAL LEGISLATION

The next item of the report of the committee referred to a resolution introduced by Dr. Southgate Leigh, Virginia:

Whereas, The strength of the medical profession in the field of legislation is lessened by lack of uniformity in policies and methods; and

Whereas, Such uniformity can be promoted and established only through cooperation among the several state associations whereby each will have the benefit of the knowledge and experience of all others; and

Whereas, Such cooperation can be best established through the Board of Trustees, acting through the Bureau of Legal Medicine and Legislation, be it

Resolved, That every state association be urged to cooperate to the fullest possible extent with the Board of Trustees in all matters of legislation, state and national, and be it further

Resolved, That the Board of Trustees be requested to extend to every state association all such assistance as may be possible in defining and carrying into effect its legislative policies, and in promoting uniformity in them

Dr H. M Brown, Wisconsin, moved that the resolution be adopted The motion was seconded by Dr. A. D. Dunn, Nebraska, and carried.

EXPERT OPINION EVIDENCE

Dr. H. M. Brown, Wisconsin, read the report of the Committee on Expert Opinion Evidence and moved that it be adopted The motion was seconded by Dr. A. J. Bedell, New York.

Dr. J N. Henry, Pennsylvania, suggested an amendment on the ground that there was no use passing a resolution giving moral support to a vague resolution of this sort. He stated that a letter said that the bill was approved by the American Institute of Criminal Law and Criminology and by the American Bar Association, the Committee on Jurisprudence and Law Reform of the American Bar Association. The amendment suggested was as follows:

And further be it

Resolved, That the House of Delegates endorses certain principles approved by the American Bar Association and by the American Institute of Criminal Law and Criminology, that in civil and criminal cases where the issue of insanity is raised, the court may appoint expert medical witnesses who shall be paid out of public funds and who may furnish a written report.

Dr. Henry stated that this bill was enacted substantially in Wisconsin, and the general provisions of the first section were enacted in New York.

Dr. A. E Bulson, Jr., Indiana, moved that the amendment be incorporated with the reference committee's report. The motion was seconded.

Dr. H. W. Orr, Section on Orthopedic Surgery, suggested that, following the word "insanity," where the question of insanity was raised, there be added the words "or compensation for industrial injury."

Dr. J. N. Henry, Pennsylvania, did not accept this amendment

Dr G E. Follansbee, Ohio, in discussing the adoption of the amendment, said that if the House was of the opinion that those details should be included in the report of the reference committee, he believed that the resolution as originally presented more fully covered the thing than the amendment that had been introduced. The matter of the expert opinion witness in matters of insanity was important, but no more important in many of our large cities than the matter of the expert opinion the witness establishes where insanity is not introduced. It was quite important that we should have unbiased witnesses appointed by the court. Insanity was not involved in civil cases. If this amendment should be adopted, it covered only a half of the abuse of expert opinion evidence. If there was any way to refer the report back to the reference committee with instructions how to rewrite it including civil cases as well as criminal cases, this was the action that ought to be taken.

A substitute motion, that the whole thing be referred back to the committee with instructions to report at some later meeting was seconded by Dr. Bulson, Indiana, and adopted.

Dr. H. M. Brown, Wisconsin, moved the adoption of the report as a whole, eliminating the part of the report that had been referred back to the committee. The motion was seconded and carried.

Report of Reference Committee on Hygiene and Public Health

Dr. A. T. McCormack, Kentucky, read the report of the Reference Committee on Hygiene and Public Health:

We beg leave to submit the following report in regard to resolutions referred to this committee.

We endorse that part of the report of the Board of Trustees in regard to the sale and distribution of zinc stearate as appears on page 80 of the Hand Book, and recommend its adoption

We endorse the report of the Advisory Committee on Trachoma Among the Indians, as submitted by the special committee on this subject, and recommend its adoption.

We endorse the report of the Special Committee on Narcotic Drugs and recommend its adoption.

We recommend that another conference on periodic health examination be held next year at the same time the conference of state secretaries takes place.

We recommend the adoption of the following resolution in regard to the use of the title "Doctor":

Whereas, The title "Doctor" in a medical sense has from the earliest times been associated with the treatment of human ailments; and

Whereas, Most of the states now grant licenses to treat the sick to persons of limited educational qualifications, such persons not being graduates of reputable medical schools; and

Whereas, The use of the title "Doctor" by persons of inferior educational qualifications constantly misleads the public, resulting in much unnecessary suffering and many untimely deaths; therefore, be it

Resolved, That it is the sense of the American Medical Association that, for the protection of the public, the title "Doctor" in a medical sense be restricted to doctors of medicine and doctors of dental surgery

A. T. McCormack, Chairman,
S. W. Welch,
Charles E. Humiston,
L. H. McKinnie,
Charles E. Mongan.

Dr. A. T. McCormack, Kentucky, moved the adoption of the report of the committee as a whole. The motion was seconded by Dr. Soiland, California, and carried.

Report of Reference Committee on Amendments to Constitution and By-Laws

MEETING IN CANADA

Dr. J. W. Van Derslice, Illinois, Chairman, reported that the Reference Committee on Amendments to Constitution and By-Laws recommended that the amendment offered by Dr. Keiper amending Article 10 of the Constitution be not approved.

Dr. J. W. Van Derslice, Illinois, moved that the report be adopted. The motion was seconded by Dr. Moll, Michigan, and carried.

RECOGNITION OF LAY SECRETARIES

The committee recommended that the amendment offered by Dr. Hunt, New York, providing for the recognition of lay secretaries of constituent state associations be not approved. While recognizing their excellent work and attendance at the meetings, yet it is considered not feasible to give them official representation in the sessions.

Dr. J. W. Van Derslice, Illinois, moved the adoption of this portion of the report of the committee. Seconded and carried.

APPOINTMENT OF EMERGENCY OFFICERS

The committee recommended and approved that there be added to the words "appoint emergency committees" the following: "In the case of a vacancy by death or otherwise in the office of President-Elect, the Secretary or Treasurer, the Board of Trustees shall fill the vacancy for the unexpired term."

Dr. J. W. Van Derslice, Illinois, moved that addition of this to the By-Laws, authorizing the Board of Trustees to fill the office in case of vacancy of Secretary, President-Elect, and Treasurer. The motion was seconded by Dr. C. J. Whalen, Illinois. After discussion by Dr. E. B. Heckel, Board of Trustees, and Dr. A. H. Bunce, Georgia, the motion to adopt this part of the report was lost.

PLACE OF ANNUAL MEETING

The committee suggested a change in Chapter 6, Section 1, under the duties of the Board of Trustees, "The Board of Trustees shall select the place of meeting for the annual meeting of the American Medical Association." This will come up for voting at the next regular session.

This notice of amendment to the Constitution and By-Laws will lay over until next year.

Dr. J. W. Van Derslice, Illinois, moved the adoption of the report as amended. Seconded by Dr. Bert L. Eiker, Iowa, and carried.

Delegates to Dedication of Murphy Memorial

Dr. E. B. Heckel, Board of Trustees, reported on the appointing of delegates to represent the Association at the dedication of the Murphy Memorial. The Board approves of this project and suggests that the Speaker of the House appoint two delegates to represent the Association at the dedication of the Murphy Memorial, June 10-11.

Dr. Albert Soiland, California, moved that the House adopt the recommendation of the Board of Trustees that the Speaker appoint two delegates from this body to represent the American Medical Association at the dedication of the Murphy Memorial. Seconded and carried.

COSMETICS

The Secretary read the supplemental report with reference to cosmetics.

The House of Delegates at Chicago, 1924, adopted a resolution authorizing the fostering of legislation to place cosmetics under the restrictions of the food and drug laws, to require the names of all poisonous ingredients to be placed on labels, and to prohibit the use of the most harmful ingredients in cosmetics. The resolution adopted provided further for the promotion of legislation to prohibit the use of paraphenylendiamine as a dye for hair and fur. The Bureau of Legal Medicine and Legislation undertook to study the evidence to support a plea for the enactment of such legislation and to enable the bureau to draft the legislation proposed. At the request of the bureau, the Board of Trustees appointed a technical committee, to cooperate.

In 1925, at Atlantic City, the House of Delegates reiterated its views in the following resolution:

WHEREAS, There has been an enormous increase in the use of cosmetics; and

WHEREAS, Many of these cosmetics contain chemicals irritating and dangerous to the human organism; and

WHEREAS, A special committee of the American Medical Association is now in existence, appointed to investigate these problems; be it

Resolved, That the Trustees of the American Medical Association be urged to finance and push the work of this special committee.

Work under these resolutions continues. Questionnaires have been submitted to approximately 450 dermatologists seeking reports of injuries due to the use of cosmetics, hair dyes and dyed furs, and the replies are being tabulated. The evidence at hand, however, is insufficient to form the basis of any recommendation.

This was referred to the Reference Committee on Hygiene and Public Health.

Supplemental Report on Medical Education

Dr. F. B. Lund, Massachusetts, read the following supplemental report of the Reference Committee on Medical Education:

On page 117, the last three lines reading "A committee on the public responsibilities of the medical profession be created consisting of one member for each of the councils and bureaus and at least three additional serving for five year term," the committee recommends that for the phrase beginning with the word "consisting" the following be substituted:

"Consisting of five members appointed in the usual manner, namely: Nominated by the President and elected by the House of Delegates."

J. NEWTON HUNSBERGER.
W. A. PUSEY.
BEN R. MCCLELLAN.
F. B. LUND, Chairman.

Dr. F. B. Lund, Massachusetts, moved that the report be adopted. Seconded by Dr. B. R. McClellan, Ohio, and carried.

Address by Hubert Work

The Speaker presented the first Speaker of the House of Delegates, Hon. Hubert Work, Washington, D. C., Secretary of the Interior, who addressed the House as follows:

Mr. Speaker and Members of the House of Delegates:

It affords me the greatest pleasure, I assure you, to stand here before you again if only for a moment in this semidetached position. I have a memory of more than twenty years' association with this House of Delegates. For twenty years I held office of some sort or other in this House. I thought then, and I think now, that no body of men selected from the United States for any purpose or from any locality has quite the acumen that the House of Delegates of the American Medical Association has.

Speaking of it the other day to a man with whom I was traveling, he said, "It is perhaps like Congress."

I said, "Yes, and no. These men are all educated and they are all mind readers and no man can stand before the House of Delegates for a series of years, as your Speaker has, and stand up except that they read his mind before he frames it in words."

I would like to say a word perhaps from a detached position about the American Medical Association and its present status as I see it now. We all know that a monument is a structure erected in a community perhaps that stands away from any other similar structure made from the same materials in that vicinity. It is to commemorate some person or some thing. The American Medical Association, when George Simmons left it, who was the architect of this monument to American medicine, had turned over to it a monument in the shape of a magnificent building in Chicago, and the splendid organization that he matured and left was merged into the new organization. It was quite a revolution. Yet this change was accomplished without any disturbance and of course with great improvement to the medical organization.

I see before me many men here who mixed the mortar and who carried the hod and who laid the stone to erect this great monument of the American Medical Association to American medicine. Each of us perhaps has borne his humble part in it, but each part was necessary to the consummation of the whole. I for one look back with the greatest pride on any small part I may have had in erecting this monument to American medicine and to the medical profession of the United States.

Gentlemen, I thank you. (Applause.)

Cablegram to Dr. Simmons

Dr. A. T. McCormack, Kentucky, moved that the Speaker and the Secretary be instructed to send a cablegram to Dr. Simmons expressing the love, affection and gratitude of this House. Seconded by Dr. O. S. Wightman, New York, and carried unanimously.

Report of Reference Committee on Report of Board of Trustees and Secretary

Dr. E. Eliot Harris, New York, presented a partial report on the Board of Trustees and moved that it be considered in a Committee of the Whole in executive session.

Dr. Holman Taylor, Texas, read a partial report by the Reference Committee on the Board of Trustees.

Dr. E. Eliot Harris, New York, moved that the portion of the report on the Board of Trustees be referred to a Committee of the Whole in executive session. Seconded by Dr. E. J. Goodwin, Missouri, and carried.

The Speaker called as Chairman of the Committee of the Whole the Vice Speaker of the House, Dr. Rock Sleyster, Wisconsin.

The House of Delegates went into a session of the Committee of the Whole.

The House of Delegates reconvened at 12 o'clock, the Speaker, Dr Fred C. Warnshuis, in the chair.

Dr. Rock Sleyster, Wisconsin, chairman, reported that the Committee of the Whole had for consideration the report of the Reference Committee on reports of the Board of Trustees and Secretary. The Committee of the Whole accepted the reports as reported by this committee and recommended its adoption by the House of Delegates, as follows:

We have conducted an extended hearing on several matters referred to our committee and beg at this time to submit a partial report, covering those matters referred to in the hearing and on which the committee has been able to make decision.

REPORT OF BOARD OF TRUSTEES

On pages 6 and 7 of the Hand Book will be found a discussion of the National Prohibition Act, and the action of the Board of Trustees, pursuant to a resolution on the subject adopted by this House in 1925. On page 100 of the Hand Book will be found the report of the committee appointed by the Board of Trustees at the instance of the House of Delegates and under the resolutions already referred to. This report sets out certain regulations intended to support the national prohibition authorities and protect the medical profession, in the instance the quantitative limitations features of the National Prohibition Act, as amended, be declared unconstitutional by the U. S. Supreme Court:

Our committee recommends that the committee created by the above mentioned resolution of the House of Delegates and appointed by the Board of Trustees, to cooperate with the Commissioner of Internal Revenue and the Secretary of the Treasury, be continued as at present constituted in the matter of personnel, with such additional members as the Board of Trustees may determine, and that the said committee report, through the Board of Trustees, to the next session of the House of Delegates.

On page 82 of the Hand Book, the subject of the Gorgas Memorial is discussed. The Board of Trustees declined to agree to a certain degree of participation in the project in hand, reciting the reasons for so declining. Our committee feels that the medical profession warmly approves well conducted and properly controlled efforts to educate the public on health matters, but feels that it might be a dangerous expedient to lend its influence to the creation of an enormously financed foundation, under federal charter, for these purposes, without adequate control by this body. It will be understood that the present plans contemplate control by a mixed lay and medical board, on which the Association has less than 10 per cent representation, and that the accomplishments of the foundation thus created depend almost entirely on the active cooperation of the medical profession. Your committee recommends that the Board of Trustees stand ready at all times to consider cooperative proposals looking to the perfection of feasible, safe and effective plans of cooperation, reporting from time to time to the House of Delegates.

On page 84 of the Hand Book appears a discussion of the lack of uniformity in reporting deaths in the puerperal state, having reference to a resolution introduced by Dr. Mongan, Massachusetts, in 1924. There appears this language:

"Methods of securing and of editing death returns in England and Wales and those found in use elsewhere were defined in the statement of the Bureau of Census, in which it was pointed out that to adopt the English methods simply because it produces a lower rate than some other methods would be unsound practice."

Our committee feels that the Bureau of Census has missed the point of Dr. Mongan's resolution, which was not to show a lower death rate but rather to separate deaths *associated* with pregnancy from those *directly due to* pregnancy, that there may be a fair basis of comparison in this regard with England and Wales.

On page 86 of the Hand Book, the subject of a full-time representative in Washington is discussed. The Board of Trustees has declined to appoint such a representative in Washington on a full-time basis, as requested by the House of Delegates at Atlantic City last year, in the belief that the House of Delegates did not understand at the time the aforesaid action was taken that the Association had connections in Washington that were believed by the Trustees to be adequate. A majority of the reference committee of last year which had recommended a full-time representative in Washington appeared before this committee and asked that the matter be considered by the House of Delegates in Executive session, as a Committee of the Whole, and it is so recommended.

Respectfully Submitted.

E. Eliot Harris, Chairman.
C. J. Whalen.
Holman Taylor.
E. J. Goodwin.
A. H. Bunce.

Dr. Rock Sleyster, Wisconsin, moved that the report be adopted. Seconded by Dr. Thomas C. Chalmers, New York.

Dr. Rock Sleyster, Wisconsin, added to the report that the Committee of the Whole would be in favor of advising the House of Delegates that the Board of Trustees be requested to provide a representative in Washington during the legislative sessions.

The report of the Committee of the Whole reporting on the report of the Reference Committee on Board of Trustees and Secretary was adopted.

Report of the Reference Committee on Miscellaneous Business

Dr. Bertram L. Bryant, Maine, read the report of the Reference Committee on Miscellaneous Business:

The Reference Committee on Miscellaneous Business thinks the resolution introduced by Dr. D. E. Sullivan, New Hampshire, asking that a survey be made of the physical condition and financial status of those of our members who are unable to earn their support by the practice of their profession, with the objective of establishing and maintaining a home for their care, is well worthy of favorable consideration by our Board of Trustees, and recommends that a committee be appointed by the President empowered to act, in carrying out the intent of this resolution.

B. L. Bryant.
C. O'Donovan.
E. D. Ebright.
M. L. Stevens.
E. P. North.

Dr. Bertram L. Bryant, Maine, moved that the report be adopted. Seconded by Dr. A. E. Bulson, Jr., Indiana, and carried.

The Secretary read a communication from the Secretary of the Canadian Medical Association inviting the American Medical Association to send a delegate to its annual session. The invitation was referred to the Board of Trustees.

A letter and other communications from Dr. Robert V. Day, a member of the House of Delegates, from California, having to do with the passage by Congress of a bill to secure the appointment of Dr. Derbyshire as a surgeon in the regular corps of the United States Public Health Service, so that he may be retired with the advantage of the pay granted to officers of that advantage, was laid on the table.

The Secretary read a letter from the general secretary of the National Catholic Welfare Conference asking the American Medical Association to protest against pending legislation authorizing the dissemination through the mails of information concerning contraception. The matter was referred to the Board of Trustees.

NEW BUSINESS

Bill Coordinating Public Health Activities

Dr. S. W. Welch, Alabama, introduced the following resolution:

Resolved, That the House of Delegates of the American Medical Association endorse the principles embodied in H. R. 10125, a bill to provide for the coordination of the public health activities of the government and for other purposes.

This was referred to the Reference Committee on Legislation and Public Relations.

Affiliate Fellowship

Dr. E. J. Goodwin, Missouri, introduced the following amendment to Section 5, Chapter XI, of the By-Laws, merely giving affiliate fellows the subscription to The Journal without cost to them.

Amend Section 5 of Chapter XI of the By-Laws as follows: Strike out the word "not" at the end of line 13 and the words "except by" in line 15, and substitute the word "without" for the words "except by," so that the section when amended shall read as follows:

Sec. 5. Affiliate Fellows.—A Fellow who has been a Fellow for a continuous term of fifteen (15) years, who is not less than sixty-five (65) years of age, and who is an honorary member of his component society and of his constituent association, or is connected with these organizations in an equivalent manner whereby he is relieved from the payment of dues or fees, on request of his constituent association may be made an Affiliate Fellow by a majority vote of the House of Delegates of this Association. Affiliate Fellows shall be privileged to participate in the Scientific Assembly of the Association; they shall not be required to pay Fellowship dues and shall receive The Journal of the American Medical Association without personal subscription. Affiliate Fellowship shall be conditioned on such an Affiliate Fellow continuing the relationship with his constituent association herein defined.

This was referred to the Reference Committee on Constitution and By-Laws.

Address of Col. Gilbert E. Seaman
of the Veterans' Bureau

Dr. H. M. Brown, Wisconsin, asked the privilege of the floor for Colonel Seaman of the Veterans' Bureau.

Dr. A. E. Bulson, Jr., Indiana, moved that the floor be granted to Colonel Seaman. Seconded by Dr. J. Norman Henry, Pennsylvania, and carried.

Col. Gilbert E. Seaman, Veterans' Bureau, spoke as follows:

Mr. Speaker, and Members of the House of Delegates:

I come representing the director of the United States Veterans' Bureau and the medical director, and bring to you and to the American Medical Association the greetings of General Hines, the director, and Dr. Crossman, the medical director, for the purpose of presenting a few thoughts in connection with the problems of the medical service of the United States Veterans' Bureau.

The United States Veterans' Bureau is without doubt one of the greatest relief organizations in the world. The administration of the bureau presents problems and difficulties, solution of which calls for the highest class of service.

During the formative period, the bureau's work has been subject to considerable criticisms, and no doubt some of this criticism was warranted, but it is believed that the work is now on a sound basis and is going forward in accordance with the desires of the people and the government and to the satisfaction and relief of ex-service men. In any case, the administration of the present director of the Veterans' Bureau has received the general approval of the public and the veteran. Economies have been effected and facilities for the care of the ex-service man have been much improved and enlarged in order to meet the requirements of the Veterans' Bureau law. The Director of the U. S. Veterans' Bureau welcomes constructive criticism. He has perhaps the most difficult problem that could fall to the lot of any servant of the government. It is recognized that the problem is in a very large measure a medical problem.

The medical service of the U. S. Veterans' Bureau has the largest number of hospitals, dispensaries, and by far the largest number of patients under one organization in the United States, if not in the world. The medical director and the medical service as a whole recognize the fact that this service cannot be rendered in accordance with the desires of the people, the Congress, and the interests of the veteran without the best cooperation and the generous assistance of the medical profession of America, particularly the medical profession as represented by the American Medical Association. It is for that reason that each succeeding year some effort has been made to interest the American Medical Association, and to gain your confidence and support.

The American Medical Association has always been noted for its cordial support of the various medical arms of the government in the solution of their problems. This association deserves a large measure of credit for the success of the medical department of the Army, the Navy, and the Public Health Service; and now, this latest medical arm of the government comes to you with its problems, endeavors to state them, asks for your careful consideration, for your expert advice, and for your cooperation in the solution of their difficulties.

The medical service of the Veterans' Bureau does not make the law as it applies to the medical care and relief of veterans; that is the function of Congress representing the government and the people. The function of the medical service is to follow the provisions of the law and render to the disabled ex-service man such hospitalization and other medical care and attention as is provided by the government. It has been said that the medical service has the largest medical problem on its hands of any organization in America. It may also be said that it has the largest medical opportunity and it may reasonably be expected to take advantage of that opportunity in advancing the science and art of medicine with a primary purpose of giving the disabled ex-service man or woman the advantages of the most advanced information available to the medical profession.

There were approximately five million men and women who served in the war. Of this number a certain proportion suffered in health, or will suffer by reason of their service. The Veterans' Bureau conducts fifty hospitals and more than one hundred dispensaries. In these hospitals during the past year there have been hospitalized approximately 77,000 patients. At the end of the last fiscal year there were in hospitals approximately 27,000 patients. Of this number 83 per cent were suffering from service connected disabilities, while 17 per cent were veterans of all wars or military movements since 1897 suffering from disabilities which may or may not have been connected with military service, some having applied but their service connection not yet determined. Many of these were veterans of the Spanish American War, the Philippine insurrection, the Boxer rebellion, and later military operations, some of whom had grown old, many of them drawing small pensions, and all of them suffering from some disability, compensable or otherwise. The World War Veterans' Act provides, it is true, for the care of veterans under certain circumstances regardless of the origin of their disability, but only when hospital facilities in Veterans' Bureau hospitals are available, and preference is given to those who are financially unable to adequately care for themselves. It will therefore be seen that this very generous, many people think too generous, and some people think unwarranted provision of the law, does not apply to a very large percentage of the total number in hospitals. The extension of Veterans' Bureau hospital facilities for the care of nonservice connected disabilities of ex-soldiers is not contemplated. It is desired to point out, however, that the law is not made by either the director or the medical service, but by the Congress representing the people, and the problem of the medical service is to efficiently apply the law and render the relief afforded under its provision.

In order to better render this relief, and do so in accordance with the generally accepted and best available medical thought and opinion, the Veterans' Bureau called to its assistance, in March, 1924, the organization known as the Medical Council, consisting of physicians and experts of national prominence representing the several specialties in medicine. This council holds two or more meetings each year at the call of the director and the medical director, and at the end of each session makes such recommendations as they see fit for the betterment of the medical service to be rendered to the disabled veteran. The head of that council is your distinguished ex-president, Dr. Ray Lyman Wilbur, and it is made up entirely of men of outstanding eminence in the medical profession, practically all of whom are leaders in the American Medical Association. As a result of the activities of the Medical Council, a medical research section was recently established in the medical service of the Veterans' Bureau and has already done excellent work in the standardization of procedure in the field of laboratory and clinical research. There have also been established diagnostic centers for the exhaustive study of cases presenting difficulties of diagnosis, or which are the subject of medical controversy. These centers afford the most modern equipment with attending staffs of outstanding qualifications, and have as their purpose, on the one hand, making a diagnosis on which a proper and compensable rating may be made, and, on the other hand, the elimination of unnecessary hospitalization and other expense. The hospitals of the United States Veterans' Bureau have been the subject of careful study by the American College of Surgeons, and all but two or three have been accepted as meeting the standard requirements of hospitals as laid down by the American College of Surgeons. The medical service has also provided for postgraduate instruction to its medical officers, particularly in the fields of tuberculosis and neuropsychiatry, which, largely on account of the provisions of the law, constitute a very important part, if not a major part of the entire medical problem.

Attention is called to the fact that the 27,000 patients in hospitals at the end of the last fiscal year represent slightly more than one half of one per cent of those who were in the military service during the war, not an unreasonably large number surely. The service men are not all in hospitals, only one out of 200 who served. Of this 27,000 cases at least 20,000 were cases of tuberculosis and neuropsychiatric disease, many of which were hospitalized by reason of the presumptive clauses of the law.

In the earlier history of the Veterans' Bureau, by reason of the attitude of the people and the ex-service men, the emphasis was laid too largely on compensation; but with a better understanding of the problem on the part of all concerned, including the service man, the emphasis is now being laid on cure and rehabilitation, rather than compensation, and for the future this will be not only the slogan but the true guiding principle of the medical service of the U. S. Veterans' Bureau.

It is believed that a provision of the law granting hospitalization to those without compensable disabilities, and particularly those in needy circumstances, has some merit at least from the standpoint of public policy. It is not always an easy matter to convince the people in any community, or the ex-service man, that military service had nothing to do with an existing disability, and also that a man who has rendered military service is not in some measure at least entitled to the consideration of his government. It is believed that good public policy dictates that there be generous recognition of the sacrifices often involved in military service in time of war, and no doubt that has been the dominating note in the policy of the United States toward the veterans of all wars. It is true that the application of this policy at times involves mistakes in individaul instances and perhaps expense not fully warranted in the individual case, but is this not true of all philanthropic effort? Is it not true that the many state hospitals, city hospitals, private philanthropic hospitals, and public and private clinics and dispensaries render service often to those who not only could afford to do so, but would be benefited by carrying their own burdens in a larger measure and paying their own way? Is there not widespread abuse of public and private philanthropic enterprises outside of that which in individual cases doubtless obtains in the care and treatment of ex-service men at the expense of the people?

Efforts have been made to put the medical service of the U. S. Veterans' Bureau on a better basis by creating a medical corps with commission status and permanent tenure and greater emolument, so that not only for the present but for the future the best type of young men coming into medicine will be attracted to this service as a career; and your careful consideration and cooperation in the furtherance of this desirable object is solicited by the director, the medical director and medical officers of the service. With the unequaled opportunity for research and for clinical observation and experience given the proper status and adequate compensation, the Veterans' Bureau Medical Service has the opportunity of not only giving to our ex-service men the highest type of medical skill, but by their work reflecting credit and glory on American medicine. We ask your constructive criticisms and your counsel and advice.

This communication was spread on the minutes for the information not only of the House but also for the Medical profession of the country at large.

The House recessed at 12:30 p. m.

Third Meeting—Thursday Afternoon, April 22

The House of Delegates was called to order at 2 p. m. by the Speaker, Dr. F. C. Warnshuis.

ELECTION OF OFFICERS

The Speaker asked for nominations for President.

Dr. E. J. Goodwin, Missouri, nominated Dr. Jabez N. Jackson. Dr. Jackson's nomination was seconded by Dr. Ben R. McClellan, Ohio; Dr. Arthur W. Booth, New York; Dr. A. W. Hornbogen, Michigan; Dr. Donald Macrae, Jr., Iowa; Dr. Walter F. Donaldson, Pennsylvania, and Dr. E. P. Sloan, Illinois.

Dr. Jabez N. Jackson was then unanimously elected, and the Speaker declared that he had been chosen President-Elect of the Association by the unanimous vote of the House of Delegates.

Nominations for Vice President were declared by the Speaker to be in order.

Dr. E. C. Ellett, Tennessee, nominated Dr. John O. McReynolds, Dallas, Texas.

Dr. Albert Soiland, California, nominated Dr. C. M. Rosser, Dallas, Texas.

Dr. A. T. McCormack, Kentucky, seconded the nomination of Dr. John O. McReynolds.

Dr. Thomas C. Chalmers, New York, and Dr. S. W. Welch, Alabama, seconded the nomination of Dr. Rosser.

The Speaker appointed as Tellers Dr. Albert Soiland, California; Dr. T. O. Freeman, Illinois; Dr. Carl F. Moll, Michigan; Dr. W. J. Ferguson, Missouri, and Dr. Harry de Vighne, Alaska.

Of the votes cast, Dr. McReynolds received 74 and Dr. Rosser, 55. The Speaker declared that Dr. McReynolds had received a majority of the votes cast and had been elected Vice President.

Presentation of President-Elect Jabez N. Jackson

The Speaker introduced the President-Elect, Dr. Jabez N. Jackson, who addressed the House as follows:

Mr. Speaker and Fellows of the House of Delegates:

From the bottom of my heart, with feelings which words cannot express, I wish to thank you for this high honor. I, like many of you, was born into medicine, as my father and two of my uncles were doctors before me. I started to attend medical society meetings and to become a member of the profession, as a matter of fact, before I even entered on the study of medicine.

The first meeting of the American Medical Association which I had the privilege of attending was at Newport with my father, at which time he was honored by election as First Vice President. He died at that time.

As a youngster, as soon as I was out of school I became a member of my local society, and since that time I have always worked actively in medical society affairs. In fact, I am one of those who firmly feel that institutions are worth more than individuals, and that any man who is worthy of membership in the grand profession of medicine should be one who thinks more of his profession as a whole than of his own individual ambitions or interests. So it comes to me, therefore, with great pleasure today to realize that my friends have honored me with this position.

I would be possessed of more vanity than I can summon if I accepted this as an expression of my individual strength. I accept it instead as a representative of that great imperial territory known as the Southwest, because it has been my friends in the Southwest who have believed in me and who have put my name up for your endorsement today. Yet at the same time, while appreciating the compliment to the Southwest and particularly to my friends of the Southwest, I also say that I appreciate most heartily the enthusiasm with which the whole mass of the delegates have supported me. I thank you again for this high honor. (Applause.)

Election of Secretary

Dr. J. A. Witherspoon, Tennessee, nominated Dr. Olin West for Secretary.

Dr. A. T. McCormack, Kentucky, seconded the nomination.

The Speaker announced the unanimous election of Dr. Olin West.

Election of Treasurer

Dr. J. H. Walsh, secretary of the Board of Trustees, stated that the Board of Trustees unanimously nominated Dr. Austin A. Hayden, Chicago, for Treasurer of the Association to succeed himself.

The Speaker announced the unanimous election of Dr. Austin A. Hayden.

Election of Speaker of the House of Delegates

The Vice Speaker was called to the Chair and declared that nominations were in order for Speaker of the House of Delegates.

Dr. E. Eliot Harris, New York, nominated Dr. Frederick C. Warnshuis.

Dr. S. W. Welch, Alabama, Dr. J. A. Witherspoon, Tennessee, and Dr. Carl F. Moll, Michigan, seconded the nomination.

Dr. Frederick C. Warnshuis was elected Speaker of the House of Delegates by unanimous vote.

Dr. Warnshuis resumed the Chair.

Election of a Vice Speaker

Dr. F. W. Cregor, Indiana, nominated Dr. Albert E. Bulson, Jr., Indiana, for Vice Speaker of the House of Delegates.

Dr. E. Eliot Harris, New York, seconded the nomination.

Dr. A. T. McCormack, Kentucky, nominated Dr. H. P. Linsz, West Virginia.

Dr. C. J. Whalen, Illinois, seconded the nomination of Dr. Bulson.

Dr. C. S. Gorsline, Michigan, seconded the nomination of Dr. Linsz.

Dr. Victor G. Vecki, California, seconded the nomination of Dr. Bulson.

Dr. E. C. Thrash, Georgia, nominated Dr. Allen H. Bunce, Georgia.

Nominations were closed, and Dr. Bunce was elected Vice Speaker of the House.

Election of Trustees

Dr. William Gerry Morgan, District of Columbia, nominated Dr. Charles W. Richardson to succeed himself.

Dr. A. T. McCormack, Kentucky, and Dr. Walter F. Donaldson, Pennsylvania, seconded the nomination.

The Speaker declared Dr. Charles W. Richardson elected unanimously.

As Trustee to succeed Dr. Joseph A. Pettit, Portland, Ore., Dr. Victor G. Vecki, California, nominated Dr. Ray Lyman Wilbur, California.

Dr. William Kuykendall, Oregon, nominated Dr. Joseph A. Pettit, Oregon, to succeed himself.

Dr. A. W. Hornbogen, Michigan, seconded the nomination of Dr. Pettit.

Dr. F. B. Lund, Massachusetts, Dr. Joseph F. Smith, Wisconsin, Dr. William H. Mayer, Pennsylvania, and Dr. Bertram L. Bryant, Maine, seconded the nomination of Dr. Wilbur.

Dr. Harry de Vighne, Alaska, seconded the nomination of Dr. Pettit.

Dr. E. C. Thrash, Georgia, Dr. George Blumer, Connecticut, and Dr. Arthur W. Booth, New York, seconded the nomination of Dr. Wilbur.

Dr. A. T. McCormack, Kentucky, seconded the nomination of Dr. Pettit

Dr. A. D. Dunn, Nebraska, seconded the nomination of Dr. Wilbur.

Dr. H. A. Miller, New Mexico, and Dr. H. P. Linsz, West Virginia, seconded the nomination of Dr. Pettit.

Dr. E. M. Neher, Utah, endorsed Dr. Pettit.

Nominations were closed. Of 119 votes cast, 59 were for Dr. Wilbur, and 60 for Dr. Pettit.

The Speaker declared Dr. Pettit elected to succeed himself as a member of the Board of Trustees.

For Trustee to succeed J. H. J. Upham, Columbus, Ohio, Dr. George Edward Follansbee, Ohio, nominated Dr. J. H. J. Upham, Ohio.

Dr. Thomas C. Chalmers, New York, Dr. D. E. Sullivan, New Hampshire, Dr. Samuel P. Mengel, Pennsylvania, Dr. F. B. Lund, Massachusetts, Dr. Charles E. Humiston, Illinois, and Dr. Arthur W. Booth, New York, seconded the nomination of Dr. Upham.

The motion to close the nominations was seconded and carried, and Dr. J. H. J. Upham, Ohio, was unanimously elected as Trustee.

For Trustee to fill the unexpired term of Thomas McDavitt, Dr. H. M Brown, Wisconsin, nominated Dr. Rock Sleyster, Wisconsin.

Dr. J. D. Brook, Michigan, Dr. J. L. Rothrock, Minnesota, and Dr. S. W. Welch, Alabama, seconded the nomination of Dr. Sleyster.

The Speaker announced the unanimous election of Dr. Sleyster to fill the unexpired term of Dr. Thomas McDavitt.

The Speaker announced that by the resolution or expression of sentiment of the House, the Trustee receiving the highest number of votes should serve for the period of five years. Two of the newly elected Trustees had received 138 votes each, Dr. Upham and Dr. Richardson. Dr. Upham, in view of the years of experience of Dr. Richardson, withdrew his name for the five-year term, and the Speaker declared Dr. Richardson the Trustee for a term of five years.

Nomination for Standing Committees

President Wendell C. Phillips presented to the House the following nominations to standing committees:

Judicial Council: Dr. J. N. Hall, Denver, to succeed himself.

Council on Medical Education and Hospitals: Dr. S. W. Welch, Alabama, to succeed himself.

Council on Scientific Assembly: Dr. John E. Lane, Connecticut, to succeed himself.

On motion of Dr. A. T. McCormack, Kentucky, regularly seconded and carried, the nominations were confirmed.

Election of Honorary, Affiliate and Associate Fellows

The Secretary read the following nominations for Associate and Affiliate Fellowship, all of which were confirmed by the House:

The Judicial Council nominated the following:

AMERICAN MEDICAL MISSIONARIES

Byram, Roy M., Kanghei, Korea.
Dunlap, R. W., Chefoo, Shantung, China.
Ewers, E. M., Weihsien, China.
Freas, Howard M., Banza, Manteke, Belgian Congo.
Griggs, Donald E., Nanking, China.
Hoyt, Hubbard S., Taikyu, Chosen, Japan.
Huffman, L. E., Pauri, Garhwal, India.
Lewis, Stephen C., Chenchow, China.
Meade, Richard H., Jr., Anking, China.
Morris, H. H., Shanghai, China.
Oechli, Waldo R., Taianfu, Shangtung, China.
Peterson, R. A., Nanking, China.
Southworth, J. D., Tennoji Ku, Osaka, Japan.
Taylor, Harry B., Anking, China.
Teusler, Rudolph B., Tokyo, Japan.
Wanless, W. J., Miraj, India.
Ward, Mark H., Boston, Mass.
Watson, Percy T., Shansi, China.
Webb, Adin H., Chengtu, West China.

APPLICANT LIVING IN ADJACENT COUNTRY

Dunlop, F. C., Vancouver, British Columbia, Canada.

The following nominations for Associate Fellowship were submitted by the sections named:

SECTION ON PHARMACOLOGY AND THERAPEUTICS

De Eds, Floyd, San Francisco.
Young, Albert Gaylord, Ann Arbor, Mich.
Tatum, Arthur L., Chicago.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Cope, Otis Merriam, Omaha.
Lewis, Robert C., Denver.
Reed, C. I., Dallas, Texas.
Rogers, Fred Terry, Dallas, Texas.
Steenbock, Henry, Madison, Wis.
Turley, Louis A., Norman, Okla.
Woods, Ozra T., Dallas, Texas.
B. C. H. Harvey, Chicago.
Roger Sanford Hubbard, Clifton Springs, N. Y.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

Carter, William S., New York.
Russell, Paul F., Malacca, Straits Settlements.
Turner, Clair E., Boston.

AFFILIATE FELLOWS

Wesseler, F. W., St. Louis.
Brown, Tinsley, Hamilton, Mo.

Place of 1927 Annual Session

Dr. William Gerry Morgan, District of Columbia, nominated Washington, D. C., and read the following invitation: "The Medical Society of the District of Columbia invites you to hold the Seventy-Eighth Annual Session in Washington, D. C., the capital city of the nation. Our delegate, Dr. William Gerry Morgan, has been instructed to present this invitation at the Session of the House of Delegates, April 19, in Dallas, Texas."

Dr. Albert Soiland, California, seconded the motion to go to Washington.

Dr. Charles W. Richardson, Washington, D. C., seconded Washington and spoke in its favor.

Dr. Peter W. Tomlinson, Delaware, seconded Washington.

Dr. M. A. Tate, Ohio, nominated Cincinnati.

Dr. E. Eliot Harris, New York, seconded the nomination of Washington.

Dr. George Edward Follansbee, Ohio, seconded the nomination of Cincinnati.

Dr. J. L. Rothrock, Minnesota, nominated St. Paul. Dr. H. M. Johnson, Minnesota, seconded the nomination of St. Paul.

The Speaker anounced the selection of Washington, D. C., as the next meeting place.

Dr. Holman Taylor read the supplementary report of the Reference Committee on Reports of Board of Trustees and Secretary:

Supplementary Report of Reference Committee on Reports of Board of Trustees and Secretary

TRUSTEES

We consider here several matters not referred to in our previous report. It is not feasible to present the thorough digest which the importance of the report of the Board of Trustees deserves. The report itself should by all means be carefully studied by each member of the House of Delegates.

This seems to have been a prosperous year for the Association, and our committee feels that the Board of Trustees deserves the appreciation of this House and of the Association for its successful endeavors, and for its business acumen. We note that at the close of the fiscal year the Association had gained for its reserve the sum of $45,121.96. It will be necessary to study the report of the auditor (Hand Book, p. 89) in order to appreciate fully the financial status of the Association, which we trust at least the members of the House of Delegates will do.

The increase in Fellowship and outside subscriptions to The Journal, and in its advertising constitute indisputable evidence of prosperity. It will be borne in mind that the advertising income of The Journal could be greatly increased by even slight modifications of the high ethical standards at present in force. It will also be borne in mind that the American Medical Association assumes its membership automatically, but must depend on the appreciation of the individual for its Fellowship.

The value of the Spanish edition of The Journal has been thoroughly established, and it is the opinion of our committee that its publication should be continued. It will be noted that the net loss in the publication of this journal was $11,740.10, a decrease in loss of $1,161.95. It will be noted, further, that the Rockefeller Foundation bears half this loss.

The special journals all show an increase in subscription, except for one that was established during the year, and four of them have been published at a profit of from two to five thousand dollars each. These several enterprises would seem to be worth while.

The net cost of the Quarterly Cumulative Index was $12,678.53. The value of this publication warrants this expenditure, we are sure.

We are pleased to note that the Directory begins to show a gain on the credit side of the ledger, even though the gain is apparent rather than actual, as stated by the Trustees. It might be observed in this connection that most of the overhead utilized by this publication and not charged to it would exist, regardless of this special demand.

The increase in circulation and decrease in net cost of *Hygeia* is noted with much satisfaction. It is more than ever clear that this publication will eventually be the success we have hoped for in the most important field of health education. Every member of this great Association should be made to feel his responsibility for the circulation of *Hygeia*. It would be in the homes of every patient of every reputable physician in this country if this were so.

The Council on Pharmacy and Chemistry continues to merit the approbation of the medical profession for the great service it renders the cause of scientific medicine. We should appreciate, perhaps more than we do, the valuable services, without remuneration, rendered by the members of this council. We feel that the recently noticeable reduction in quackery is largely due to the scientific work of the Council on Pharmacy and Chemistry.

The development of the scientific exhibits and the motion picture theater factors in the scientific instruction work of the Association appeals to us as being of large importance.

The plan of medical relief in disaster advanced by a special committee, composed of Drs. William Allen Pusey, W. D. Haggard and Wendell C. Phillips, which will be found on page 103 of the Hand Book, and which has been fully endorsed by the Trustees, should be adopted. On representations made by the aforesaid committee, it is recommended that the designation of this plan be changed from "Disaster Relief" to "Medical Relief in Disaster." This is an important matter, and the plan has evidently been carefully worked out. It is provided that the general manager of the American Medical Association shall be the national director of medical relief in any large disaster, and the presidents of state societies shall be liaison officers between the national headquarters of the Association, state headquarters and component county societies. Presidents of district and component county societies shall be local directors, but may deputize other members of the profession to serve in their stead. It might be well to alter the plan set out by the committee so as to permit also the executive secretaries of state medical associations instead of the presidents, at the option of the national director of medical relief in disaster, to serve as state directors.

Of special interest is the discussion of "Narcotics" to be found on page 69 of the Hand Book. The activities of the Trustees in avoiding the very aggravating requirement that physicians prescribing narcotics register also as dispensers of narcotics constitute a service to be appreciated.

The Board of Trustees is to be commended for the spirit shown in supporting the decision of the House of Delegates to disapprove of the provisions of the World War Veterans' Act of 1924, which law granted hospitalization to all veterans, regardless of financial need, ailment or connection with war service. We recommend continuation of their activities in this connection, in view of pending federal legislation looking to the extension of the privilege of outpatient treatment under the same conditions.

The approval of certain chiropractic schools by the United States Department of Labor, as per discussion beginning on page 74 of the Hand Book, is to be condemned as encouraging quackery, and the Board of Trustees should see that every proper effort is made to have such approvals canceled.

We consider the matter of "Cults in Hospitals" to be rather local than general. The Board of Trustees should render to state associations such assistance in solving problems of this sort as may seem agreeable and advisable.

The Board of Trustees has promptly and vigorously carried out the purpose of the resolution adopted by the House of Delegates last year, in regard to the publication of reports, resolutions and the like, pertaining to policies of the Association, thirty days in advance of the annual meeting. It has the appreciation of the House of Delegates for this service.

The very prompt establishment of the Council on Physical Therapy, with such a high order of personnel and on a permanent basis, is another highly appreciated service of the Board of Trustees. We feel that the personnel of this council and the rules adopted for its guidance will insure results of the greatest value.

Finally, our committee appreciates the enormousness of the work of the Board of Trustees and the completeness of its report. And in this connection, and for this reason, we feel that it would not be amiss to urge that the House of Delegates select the personnel of the Board with the utmost care The management of such a great enterprise as the American Medical Association requires, in addition to other qualities, business ability of the highest order.

SECRETARY

The Secretary has submitted a most satisfactory report, from the standpoint of subjects treated and the manner of their treatment. It does not appear to our committee necessary or desirable to go greatly into detail in its consideration. It is believed that each member of the House of Delegates has carefully read this report, and if there are any who have not, it is respectfully urged that they do so at once. It is also urged and advised that this report be brought to the attention of constituent state associations and component county societies.

The largest membership in the history of the Association is reported. There are now 91,792 members, which makes the Association the largest of its kind in the world. In this connection should be noted the complaint of the Secretary that the carelessness of members of county societies, at which point lies the source of membership of the American Medical Association, is costing the Association good money. It is estimated that it costs not less than $1 per member to reinstate those who have allowed their memberships to lapse. This matter should be brought forcefully to the attention of component county societies, through their respective state associations.

The healthy increase in fellowship noted by the Secretary is an indication of a wholesome growth of appreciation of the national body, and we are hopeful that the growth will continue as rapidly as conditions will permit.

There are now 58,681 Fellows, an increase of 2,493 for the year. It will be remembered that our membership is coincident with the membership of component county societies, but our Fellowship is individually and separately acquired. The value of Fellowship is not by any means exclusively to the individual The educational influence of The Journal, alone, is worth much to the group Our basic purpose is a better educated and a more effective medical profession, and any factor that serves this purpose is worth while.

The county society should be the fountain head of scientific work The secretary very properly points to a danger in this connection The scientific program of a county society should accomplish two distinct things, instruct the membership and develop in members the scientific ability and the ability to express themselves. If these programs do not bring to the society those who are qualified to speak and able to speak, instruction will suffer. On the other hand, if this is done to the exclusion of discussions by members generally, there will be no development State associations and county societies will do well to give special study to this problem

The component county society constitutes the basis of the American Medical Association from every point of view. If the American Medical Association would succeed in the highest degree, it must develop the county societies to the highest degree, and require of them that they function, as it was originally intended that they should function. It is sometimes expedient to shortcircuit the county society, but if this is done to any considerable extent the whole organization will pay a penalty that might and should be avoided.

We feel that the annual conference of secretaries of constituent state associations is proving of great value. We trust that the Board of Trustees will continue to foster this practice One of the most difficult tasks confronting our national organization is that of coordinating the activities of constituent state associations and bringing about the maximum uniformity of laws and regulations for their government. There can be no better agency for this purpose than the annual conference of state secretaries.

Respectfully submitted.

E. Eliot Harris, Chairman,
C. J. Whalen,
Holman Taylor,
E. J. Goodwin,
A. H. Bunce.

On motion of Dr Taylor, seconded by Dr. Albert Soiland, California, the report of the Reference Committee on Reports of Board of Trustees and Secretary was adopted.

Presentation of Distinguished Guests

Dr. J. O. McReynolds presented the director of the National University of Mexico, Dr. Alfonso Pruneda, and his distinguished colleagues of the Mexican Republic.

Dr. Alfonso Pruneda said:

Mr. Speaker and Gentlemen of the House of Delegates:

The Mexican delegation deeply appreciates your hospitality and begs to convey its greetings to you. We have been interested in the wonderful work done by the American Medical Association. We sincerely appreciate The Journal, and the contribution of this Association not alone to medical science, but to medical ethics and to social and human welfare. We hope that this personal acquaintance may help us more and more to form a closer bond with the people of the States, and especially the medical men of the country. [Applause.]

In behalf of the Association, the Speaker extended greetings to Prof. J B. Collip, Edmonton, Alta., who represented the Canadian Medical Association, and Chester A. Duncan, dean of Pharmacy of Baylor University, delegated to represent the American Pharmaceutical Association.

Supplementary Report of Board of Trustees

Dr. Edward B. Heckel, Board of Trustees, read a supplementary report from the Board with respect to the letter from the National Catholic Welfare Conference, which had been referred to the Board. The Board recommended that in the absence of data based on adequate scientific investigation, the House of Delegates express no opinion on pending legislation.

Dr. A. D. Dunn, Nebraska, moved the adoption of the report of the Board of Trustees.

The motion was seconded by Dr. John P. DeWitt, Ohio.

Dr. Southgate Leigh, Virginia, moved that it be referred back to the Board of Trustees with power to act.

The motion was seconded by Dr. Arthur W. Booth, New York.

The Speaker announced that the vote to refer the matter back to the Board of Trustees had carried.

Supplementary Report of Reference Committee on Reports of Officers

Dr. Arthur W. Booth, New York, read the supplementary report of the Reference Committee on Reports of Officers:

1. Your Committee begs to report that it heartily endorses the suggestions and recommendations of President Haggard relative to the proposed plans for extending the idea of periodic health examinations.

Your committee feels that the efficiency of this general movement will depend largely on the care exercised in preparing the literature to be sent out by the various county societies to their members and the lay public. To that end, we suggest that the Trustees should be requested to prepare sets of carefully worded letters as approved models or forms.

2. In reviewing the address of President-Elect Phillips, we found many constructive suggestions designed to bring the general public into intelligent cooperation with organized medicine. We approve of Dr. Phillips' suggestions that the House of Delegates urge on every practitioner of medicine his personal duty in this matter, and especially the necessity for an intensive survey to determine the most efficient methods of promoting public health education and impressing the public with the necessity of such. We therefore offer the following resolution:

Resolved, That the House of Delegates requests the Board of Trustees to appropriate sufficient funds to defray the expenses of a survey, the purpose of which shall be an investigation of ways and means to best promote public health education.

3. We heartily approve of the Speaker's comments touching on state medicine and contract practice.

4. As regards the subject of selecting a place for the annual session, we agree thoroughly with the Speaker that there are many questions involved in the selection of a suitable place for our annual sessions, and that the Board of Trustees is in a position to obtain more definite and satisfactory data than the individual members of the House of Delegates. We feel, however, that, within certain limits, the members of the House of Delegates ought to have a voice in the designation. We would therefore recommend that the Board of Trustees be requested to suggest, at the first meeting of the annual session, not less than three suitable locations, and that from these, the House of Delegates shall make the final choice by vote.

Respectfully submitted.

Albert E. Bulson, Jr.
J. Norman Henry.
William Gerry Morgan.
Victor G. Vecki.
Arthur W. Booth, Chairman.

Dr. Albert Soiland, California, moved the adpotion of the report as a whole.

The motion was seconded by Dr. Albert E. Bulson, Jr., Indiana, and carried.

Supplementary Report of the Committee on Legislation and Public Relations

Dr. H. M. Brown, Wisconsin, stated that the resolution of expert opinion evidence was referred back to the committee with an addendum for its consideration and for the introduction of new evidence. That new evidence in the matter has been heard and carefully analyzed by your committee, and following will be the report of the committee as to the motion brought before the House at the first session. That motion as amended now reads as follows. Dr. Brown read the resolution and a telegram from the professor of criminal law, University of Pennsylvania:

Whereas, The present court procedure in expert opinion evidence in both civil and criminal cases has in many instances brought public criticism and disgrace on both the legal and the medical professions; and

Whereas, The present procedure in many cases is believed to defeat the administration of justice; and

Whereas, An effort is being made in many states by the bar associations and medical societies of those states to correct such maladministration of justice, and to relieve the legal and medical professions of the public criticism now received; and

Whereas, The American Bar Association is actively pursuing the above laudable effort; therefore, be it

Resolved, By the House of Delegates of the American Medical Association that it recognizes the urgent need for such remedial legislation and such change in court procedure as will correct the abuse of expert opinion evidence; approves the efforts of the various bar and medical associations; and further be it

Resolved, That the House of Delegates endorses the principle that in civic and criminal cases the court may appoint expert medical witnesses, who shall be paid out of public funds, and who may furnish a written report; and that the American Medical Association offers its cooperation by such means as lie in its power to promote such legislation as will be mutually satisfactory to the medical and legal professions toward the correction of the present unsatisfactory procedure of presenting expert opinion evidence, and the Board of Trustees is hereby requested to use the facilities of this organization in such a way as to give effect to the sentiments expressed in this resolution.

And further that the House of Delegates endorses certain principles approved by the Committee on Jurisprudence and Legal Reform of the American Bar Association, and by the American Institute of Criminal Law and Criminology as follows:

That in civil and criminal cases where the issue of insanity is raised, expert medical witnesses may be appointed by the court, and paid from public funds, and that such witnesses may present a written report.

Be it further

Resolved, That a copy of this resolution be sent to the American Bar Association.

Respectfully submitted.

Horace M. Brown, Chairman.

TELEGRAM

April 21, 1926.

Dr. J. Norman Henry, Dallas, Texas.

Testimony bill approved by Committee on Jurisprudence and Law Reform of American Bar Association 1915, by American Institute of Criminal Law and Criminology 1914, by eleventh annual conference of American Medical Association on Medical Legislation called by Council on Health and Public Instruction, Chicago, Feb. 15, 1915. These approvals verified.

E. R. Keedy, Philadelphia.

Professor of criminal law, University of Pennsylvania; chairman of committee which drafted those principles.

Dr. H. M. Brown, Wisconsin, moved the adoption of the resolution. The motion was seconded by Dr. Arthur J. Bedell, New York, and carried.

Dr. Brown begged the privilege of presenting the copy of the article referred to in the report.

The Speaker stated that it would be attached as addenda to the complete report.

Dr. Brown had a further resolution referring to H. R. 10125, a bill in Congress endeavoring to bring about the same general class of changes. Dr. Brown read the resolution:

Resolved, That the House of Delegates of the American Medical Association endorse the principles embodied in H. R. 10125, a bill to provide for the coordination of the public health activities of the government and for the other purposes.

On motion by Dr. Brown, seconded by Dr. Arthur J. Bedell, New York, the resolution was adopted.

Dr. Brown moved the adoption of the report as a whole. The motion was seconded and carried.

Supplementary Report of Reference Committee on Hygiene and Public Health

Dr. C. E. Mongan, Massachusetts, Chairman of the reference committee, read the report, recommending that the committee to study cosmetics be continued, and moved the adoption of the report. The motion was seconded by Dr. J. W. Van Derslice, Illinois, and carried.

Supplementary Report of Reference Committee on Amendments to the Constitution and By-Laws

Dr. J. W. Van Derslice, Illinois, stated that the amendment submitted by Dr. Eagleton, New Jersey, referring to an ad interim meeting, was recommended to be not adopted, and so moved.

The motion was seconded by Dr. C. E. Mongan, Massachusetts, and carried.

The committee recommended that the amendment offered by the Delegate from Missouri, which would place on the free list of The Journal the affiliate members of the Association, be not adopted. Dr. Van Derslice moved the adoption of that portion of the committee's report. The motion was seconded by Dr. Albert E. Bulson, Jr., Indiana, and carried.

The supplementary report of the Judicial Council in supporting an amendment to the Constitution was submitted, and the committee recommends that we adopt this amendment to the By-Laws. Dr. Van Derslice read the portion of the report of the Judicial Council referred to:

Membership in the American Medical Association is regularly obtained through membership in a constituent association and in one of its component county societies. Should a qualified physician, however, be refused membership in his component county society, he may appeal his case to the board of censors or proper tribunal of the state association in the manner provided for in the by-laws of the particular county society and state association. Should the appeal tribunal, after a careful, fair and unbiased hearing of the case, find the appellant to be worthy of membership in the organization, and should the tribunal after reasonable efforts fail to reconcile the county society to the acceptance of the appellant as a member of the said society, the house of delegates of the constituent state association, on the recommendation of the appeal tribunal, may elect the said appellant a member of the state association, the appellant thereby becoming a member of the American Medical Association.

Should any member of the American Medical Association be deemed by the Judicial Council to be unworthy of membership in the said Association, it shall be the duty of the Secretary, on the recommendation of the Judicial Council, to notify the secretary of the said member's constituent association and he in turn the secretary of the said member's component society of the facts in the case; and should the state association and the local society fail to take proper action in the premises, the House of Delegates, on the recommendation of the Judicial Council, may expel the said member from the American Medical Association.

Dr. Van Derslice moved the adoption of the amendment. Seconded by Dr. E. C. Thrash, Georgia.

Dr. H. M. Brown, Wisconsin, moved that the amendment be laid on the table. The motion to table was seconded by Dr. Thomas C. Chalmers, New York. The vote was 26 in favor of tabling and 26 against. The Speaker declared the motion to lay on the table carried.

Dr. J. W. Van Derslice, Illinois, moved that the report of the committee as a whole be adopted. The motion was seconded by Dr. Bedell, New York.

The Speaker explained that the question was on the adoption of the report as a whole, with the exception of the latter part, which was laid on the table and not adopted. The motion to adopt the report carried.

The Speaker presented for consideration a question of program of the House, having noticed that each year during the day of the last session after the election has been completed a large number of delegates depart. While a quorum is present, there is not as full a representation of delegates as would be desirable. It would seem, therefore, somewhat advisable that some procedure be given notice of at this time for enaction next year that will provide for the receipt of the reference committee reports before the House proceeds to the election. That can be done on Tuesday afternoon or Wednesday morning, but is an important matter in the affairs of the Association. With all due respect to the members who are diligent in attending to their duty, somebody can ride through a pretty dangerous piece of legislation at the last session of our House. The Speaker suggested that some member rise and give notice that he is going to introduce an amendment to either the Constitution or the By-Laws next year so we can act on that.

Dr. H. M. Brown, Wisconsin, undertook the responsibility and gave such notice.

Unfinished Business

Dr. O. S. Wightman, New York, read two telegrams, one signed by D. S. Dougherty, secretary of the Medical Society of the State of New York, and the other by Dr. Henry L. K. Shaw, Chairman of the Committee on Legislation. They read as follows:

> Medical Practice Act passed the Senate, vote 35 to 12.

Dr. Wightman continued that Governor Smith had already said that he would sign the bill—an epoch in medical legislation.

Dr. Wightman offered the following resolution:

> The medical profession of the United States as represented by the American Medical Association in convention at Dallas, Texas, congratulates the governor of the state of New York in his demand for higher standards of medical education and the protection of the health of the citizens of the empire state so well outlined in his legislative message on assuming office. We further pray that there may be no deviation from this course and ask that full consummation be realized by affixing his signature approving the medical practice act recently passed by the legislature of the state of New York.

Dr. T. C. Chalmers, New York, said: This does what to my mind is the greatest thing that has been done yet in medical legislation; it creates a grievance committee based on the grievance committee of the Bar Association, which makes instead of twelve jurors a committee of grievance composed of ten doctors of conspicuous medical standing. I trust this endorsement will prevail.

President Wendell C. Phillips said: I feel that at last the medical profession of the state has been able to convince legislators that it is their duty to look after the public health. We have developed enough knowledge of public health affairs in our legislature so they are doing it for their own protection, and that is the kind of a bill we passed. I sincerely hope it will be adopted.

A motion was made by Dr. O. S. Wightman, New York, seconded by Dr. John P. DeWitt, Ohio, that the resolution be adopted.

The Speaker announced that the resolution was unanimously adopted.

The Secretary read the following resolution from the Section on Preventive and Industrial Medicine and Public Health:

> *Resolved,* That the section on Preventive and Industrial Medicine and Public Health approves the following resolution and urges its adoption by the House of Delegates:
>
> Whereas, The registration of births and deaths at the time of their occurrence furnishes official record information of much value to individuals; and
>
> Whereas, The registration of deaths, with information on certain points, is essential to the progress of medical and sanitary science in preventing and restricting disease and in devising and applying remedial agencies; and
>
> Whereas, All the principal countries of the civilized world recognize the necessity for such registration and enforce the same by general laws; and
>
> Whereas, There are still seven states which either have defective death registration laws or have death registration less than 90 per cent complete; and
>
> Whereas, There are still fifteen states which either have defective birth registration laws or have birth registration less than 90 per cent complete; and
>
> Whereas, After a twenty-five year campaign to secure nation-wide registration of births and deaths, a drive is now on to reach this goal before 1930; now, therefore, be it
>
> *Resolved,* By the House of Delegates of the American Medical Association in annual meeting assembled, that the American Medical Association hereby expresses approval of this movement and requests the favorable consideration and action of the state authorities, to the end that good state laws for the registration of births and deaths may be enforced and that national registration of births and deaths may become a reality before 1930.

Dr. C. E. Mongan, Massachusetts, moved that the resolution be adopted. The motion was seconded by Dr. Albert E. Bulson, Jr., Indiana, and carried.

The Secretary read the following resolution from the Section on Laryngology, Otology and Rhinology:

Recognizing the fact that the most effective means for the prevention of deafness consists in the early detection of hearing impairment, thereby giving opportunity for the prompt removal of contributing causes, and believing it to be one of the important functions of our public school authorities to safeguard the integrity of the special sense organs as well as the general health of the school child; be it

Resolved, By the Section on Laryngology, Otology and Rhinology of the American Medical Association that it heartily favors the provision by our public school authorities for regular, periodic examinations of the hearing acuity of all public school children, such examinations to be adequate to detect even slight degrees of hearing loss; and be it further

Resolved, That this resolution be referred to the House of Delegates of the American Medical Association for its endorsement.

Dr. E. C. Thrash, Georgia, moved that the resolution be adopted. The motion was seconded by Dr. S. M. Blackshear, Louisiana, and carried.

Resolution of Thanks to Dallas

Dr. J. W. Van Derslice, Illinois, introduced the following resolution:

Resolved, That the House of Delegates on behalf of the members of the American Medical Association extend our hearty thanks and appreciation to the citizens of Dallas, the press of the city, the Dallas County Medical Society, the Texas State Medical Society, to Dr. Cary as chairman of the Local Committee of Arrangements, and any and other person who has contributed to the welfare and the interest and the success of this session that we have just completed.

Dr. Van Derslice moved the adoption of the resolution. The motion was seconded by several Delegates and adopted unanimously.

Death of Dr. Francis

Dr. Albert E. Bulson, Jr., Indiana, called attention to the fact that Dr. L. M. Francis, of Buffalo, a prominent member of the Association, had dropped dead at noon. He had been a member of the Association many years and had served in the House of Delegates. It was moved, seconded and carried that a telegram of condolence be sent to the relatives, and especially to Mrs. Francis.

The House of Delegates adjourned sine die at 5:25 p. m.

THE SCIENTIFIC EXHIBIT

Those who attended the Scientific Exhibit at Dallas were impressed by the scientific character of the exhibits, and the unusual amount of investigative work. The personal demonstrations by leaders in research were an outstanding feature. This year a number of papers in the sections were correlated with scientific exhibits, and notice of such correlation was published in the official program; this permitted more detailed discussion at the booths with the particular exhibit serving as a means of illustration.

The Section on Dermatology and Syphilology had another of its attractive exhibits, this time dealing with cancer. The committee in charge, composed of Drs. I. L. McGlasson, E. D. Crutchfield and Fred Weidman, deserve praise for the systematic presentation of the subject by the investigators who collaborated. Two special exhibits, authorized by the Board of Trustees, were always the centers of groups of interested visitors. The fresh pathologic exhibit received surgical and necropsy material from Dallas, supplemented by material from other cities, and by specimens received from the packing house at Fort Worth; the material was admirably demonstrated by Drs. George T. Caldwell and Ozro T. Woods. The exhibit on immunology was particularly instructive and the demonstrations were of practical, everyday interest. School children were present twice each day for demonstration of Schick and Dick tests. The committee in charge was composed of Drs. H. R. Wahl, Esmond R. Long, R. W. Lamson, J. H. Black and O. B. Nesbit. A coordinate exhibit on smallpox vaccination was given under the auspices of the United States Public Health Service by Dr. J. P. Leake. At stated intervals Dr. Leake showed the various types of takes, 120 students having been vaccinated a number of days previous to the opening of the session. Physicians also took advantage of the immunologic and smallpox demonstrations.

Except in the educational classification (where the work of organizations is exhibited), the material was presented in the name of the individual and not in the name of the institution where it was done, though the name of the institution appeared as part of the address. In line with this, the awards were made to individuals.

The arrangement of the exhibit was ideal, with spacious avenues and interesting aisles. The space utilized was almost 25 per cent larger than at Atlantic City. The total number of exhibits was seventy-seven, and the number of participants, 145.

REPORT OF COMMITTEE ON AWARDS

SCIENTIFIC EXHIBIT

The Committee on Awards reports:

The gold medal to Aldo Castellani, Department of Tropical Medicine, School of Medicine, Tulane University of Louisiana, New Orleans, for an exhibit on some tropical mycoses and their causative agents. The award is based on the excellent original investigations in a comparatively unexplored field of medicine, and for the perfection of display.

The two silver medals are awarded to the following (alphabetically arranged):

F. W. Hartman, Adolph Bolliger and H. P. Doub, Detroit, for exhibit showing the development of a promising experimental method and studies of nephritis.

Francis Carter Wood, Institute of Cancer Research, Columbia University, New York, for the introduction of an experimental method and for studies of sarcoma, and for excellence of demonstration.

The bronze medals are awarded to the following (alphabetically arranged):

Montrose Burrows, Louis H. Jorstad, Charles Johnston, G. Payling Wright and Edwin C. Ernst, St. Louis, for work showing the relation of vitamins to cancer.

Russell L. Haden, University of Kansas, Kansas City, Kan., for bacteriologic study of periapical dental infections.

The committee also awards certificates of merit to:

Janet Caldwell and Ozro T. Woods, Baylor Hospital, Dallas, for demonstration of bacteriophage.

Herbert Fox, Philadelphia, for exhibit of cancer in wild animals.

Preston G. Hickey, University Hospital, Ann Arbor, for roentgen-ray studies of injected pathologic material.

Alexander Lambert, New York, and George Blumer, New Haven, Conn., for demonstration dealing with modern methods of heart study, particularly angina pectoris.

A. H. McIndoe and V. S. Counsellor, Mayo Clinic and Mayo Foundation, Rochester, for study and excellence of presentation of injection and corrosion specimens of the vascular radicles of the liver and biliary tract.

Arthur M. Yudkin, Yale University of Medicine, New Haven, Conn., for ocular disorders attributable to dietary deficiencies.

Honorable mention is given to the following (arranged alphabetically):

American Social Hygiene Association, New York, for exhibits illustrating the work of Drs. Brown and Pearce, Rockefeller Institute.

Vilray P. Blair, St. Louis, for corrections of single harelip.

Samuel Iglauer, George Benzing, Samuel Brown and H. Kennon Dunham, Cincinnati General Hospital, Cincinnati, and Warren C. Breidenbach, Dayton, Ohio, for injected iodized oil in the roentgen-ray diagnosis of tracheal and bronchopulmonary conditions.

I. P. Leake, United States Public Health Exhibit, Washington, for excellent demonstration of actual smallpox vaccination.

United States Bureau of Entomology, Dallas, for some insects and related forms which attack man.

F. B. Young and A. L. Cooper, Scottsbluff, Nebraska, for original investigations in fossil and prehistoric pathologic conditions.

The committee appreciates the work of the two special committees, that of the Committee on Immunology and the Committee on Fresh Pathology, and feels that these features, which are not open to awards, deserve special praise. The committee would like to see these exhibits continued for next year.

The committee commends the fact that legends have been carefully prepared for many exhibits, but suggests that the purpose of the exhibit with fully explanatory legends should be most carefully worked out in the case of all exhibits.

The committee desires to commend the general arrangement, neatness, lighting and freedom from confusion of the Scientific Exhibit, and recommends it as a model for future exhibits. The committee has been impressed by the fact that there have been competent demonstrators in charge of most of the exhibits.

Roger Morris, Chairman.
Bundy Allen.
R. G. Hoskins.
W. L. McBride.
D. B. Phemister.

THE MOTION PICTURE THEATER

The Motion Picture Theater, which is under the management of the Scientific Exhibit, was located in an improvised auditorium adjacent to the Scientific Exhibit. As has characterized this feature during the last four years, the theater was operated strictly on schedule from noon to 5:30 on Monday, from 9 to 5:30 on Tuesday, Wednesday and Thursday, and from 9 to 4 on Friday. Thirty-four speakers were scheduled for seventy-five periods. The talks, which were of practical interest, were exceedingly well attended, at times the seating capacity (800) being overtaxed. At 5:30 on Wednesday afternoon a film on periodic health examinations was shown to an invited group, the members of which later will be asked for advice concerning the undertaking of such a feature film by the American Medical Association. The film was generously lent to the American Medical Association through the courtesy of the New York Tuberculosis and Health Association, with the cooperation of Drs. Orrin Wightman and Alec Thomson.

REGISTRATION AT DALLAS

The total registration at the Dallas Session was 4,179. Below are given two summaries, one by sections and one by states:

REGISTRATION BY SECTIONS

Practice of Medicine	1,371
Surgery, General and Abdominal	814
Obstetrics, Gynecology and Abdominal Surgery	239
Ophthalmology	205
Laryngology, Otology and Rhinology	213
Diseases of Children	174
Pharmacology and Therapeutics	16
Pathology and Physiology	83
Nervous and Mental Diseases	97
Dermatology and Syphilology	86
Preventive and Industrial Medicine and Public Health	92
Urology	132
Orthopedic Surgery	70
Gastro-Enterology and Proctology	51
Radiology	136
Miscellaneous	400
Total	4,179

REGISTRATION BY STATES

Alabama	28	Nebraska	39
Arizona	10	New Hampshire	2
Arkansas	117	New Jersey	13
California	100	New Mexico	30
Colorado	89	New York	102
Connecticut	7	North Carolina	23
Delaware	3	North Dakota	4
District of Columbia	15	Ohio	94
Florida	9	Oklahoma	427
Georgia	20	Oregon	12
Idaho	6	Pennsylvania	83
Illinois	182	Rhode Island	1
Indiana	37	South Carolina	7
Iowa	45	South Dakota	3
Kansas	120	Tennessee	62
Kentucky	31	Texas	1,829
Louisiana	132	Utah	7
Maine	1	Vermont	1
Maryland	15	Virginia	28
Massachusetts	43	Washington	7
Michigan	54	West Virginia	4
Minnesota	60	Wisconsin	44
Mississippi	33	Wyoming	3
Missouri	171	Miscellaneous	25
Montana	1		
		Total	4,179

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

ALABAMA

Illegal Practitioners Convicted.—The Etowah County Medical Association recently instituted quo warranto proceedings against a "Dr." M. R. Ferguson who is said to have practiced without a license at Attalla. Convicted by a jury, he has appealed the case to the state supreme court, claiming, it is said, that he did not prescribe medicine. The Alabama law does not require for conviction, that an illegal practitioner treat a patient, as merely offering to treat patients subjects him to prosecution.——Chester V. Ross, chiropractor at Mobile, was convicted by a jury of practicing without a license and was fined $50, April 8, it is reported.

ARKANSAS

Health Officer Appointed.—Dr. William K. Murray, of Canton, Ohio, has been appointed health officer of Little Rock, effective, May 1, to succeed Dr. William L. Holt, resigned. Dr. Murray is said formerly to have been attached to the departments of health of Chicago and of Canton, and to have served overseas during the World War.

State Medical Meeting.—The fifty-first annual session of the Arkansas Medical Society will be at Hot Springs National Park, May 18-20, with headquarters at the New Arlington Hotel. Among the speakers at the public session, May 18, will be Dr. Margaret W. R. Koenig of the state board of health, and Mr. Eugene T. Lies, a representative of the Playground and Recreation Association of America. There will be a clinical session at the government bath house, and visits to the various bath houses. The president's reception and dance will be in the evening of the second day. Among the speakers at the scientific session will be Dr. Fred H. Albee, New York, whose subject will be "Rehabilitation Surgery."

COLORADO

Hospital News.—The new Boulder Community Hospital, which is nearing completion, has been completely financed by a bond issue of $40,000, and a subscription campaign, which raised $72,000.——The second unit of the Methodist Episcopal Sanatorium at Colorado Springs will be opened by May 15; it has a capacity of fifty-five beds.

Personal.—Dr. Leonhard Koeppe of Halle, Germany, recently conducted a course of study in Denver on "The Slit Lamp and the Corneal Microscope."——Dr. Thomas C. Taylor, Fort Collins, has been reappointed county health officer. ——Dr. Helen F. Craig Sullivan, for many years pathologist at the St. Joseph's Hospital, Denver, has resigned. ——Dr. Ralph K. Collins, Trinidad, has arrived in Constantinople, Turkey, to make a health survey on behalf of the Rockefeller Foundation; it is planned to send a number of Turkish physicians and nurses to the United States to study American health methods.

DISTRICT OF COLUMBIA

Medical Inspection in the Schools.—Efforts are being made by school officials and members of the board of education of the District of Columbia to have Congress enact legislation placing school medical inspection in the hands of the school authorities of the district instead of in the district health department. The school officials have not at any time complained of the work performed by the health officer, but they fear there may be serious limitations on this work because of the ruling referred to above. The Monday Evening Club, which is a civic organization, advocates a large medical inspection program in the schools and has made a survey of this work in the district schools as compared with schools of other cities throughout the country. According to Walter Hatch, chairman of the health committee of the club, the survey shows that Washington is far behind other cities in the work of medical inspection in the public schools.

Lack of Funds for Health Work.—Failure of the director of the budget to approve, and of Congress to appropriate, adequate funds for health work in the District of Columbia was denounced by Health Officer, Dr. William C. Fowler, and others at the annual meeting of the Washington Council of Social Agencies at the Burlington Hotel, April 13. General criticism of health conditions in Washington was charged to the lack of funds by Dr. Victor C. Vaughan, chairman, Division of Medical Sciences, National Research Council. He gave statistics showing the death rate from various diseases, and emphasized that Washington is behind other cities in civic health activities. He pointed out that in 1925 the death rate from typhoid fever in Washington was more than five persons to 100,000 population, as compared with 1.5 for Norfolk, Va.; 3.3 for Wilmington, Del., and 3.6 for Baltimore. Dr. Vaughan said there is no prenatal clinic under government control; no maternity hospital under the control of the health officer, and no adequate supervision of preschool children. These and other conditions he laid to the lack of appropriations. James A. Tobey of the Institute for Government Research advocated the application of a standard to the district to determine what is wrong with the method of dealing with the health situation. Dr. Fowler explained the hopelessness of the health department functioning as it should in many cases as due to lack of funds. "We have asked for an appropriation of $25,000 to suppress any form of nuisances attributed to nonresidents here," he said, adding that the appropriation granted was only $2,000.

FLORIDA

Miscellaneous Items.—Dr. Simon E. Driskell, Jacksonville, has been appointed a member of the state board of medical examiners.——The Dade County Medical Society recently voted to raise its annual dues to $50.——A municipal hospital is being constructed for Delray to be made of several units, the first of which will cost $25,000.

State Medical Meeting.—The fifty-third annual meeting of the Florida Medical Association will be held in Gainesville, May 4-5. Registration will be conducted at the Elk's Club; the Alachua County Medical Society will give a smoker, Monday evening, May 3; a banquet and dance will be given Tuesday evening at the White House Hotel; automobile drives, bridge parties, luncheons and visits to the University of Florida have been arranged. There will be a general meeting, May 4, at 12:15, and a meeting of the house of delegates at 5. The scientific assembly meets May 4 at 2, and in the morning and afternoon, May 5. The speakers will comprise many of the prominent physicians of the state.

ILLINOIS

State Medical Meeting.—The seventy-sixth annual meeting of the Illinois State Medical Society will be held at Champaign-Urbana, May 18-20, under the presidency of Dr. Jacob C. Krafft, Chicago. The house of delegates meets Tuesday morning. David Kinley, LL.D., president, University of Illinois, will address the general session on that day on "Some Influences Affecting Medical Education." The oration in medicine will be delivered by Dr. William Engelbach, St. Louis, Wednesday evening; the oration in surgery by Dr. William D. Haggard, Nashville, Tenn., immediate past president of the American Medical Association, on "The Present Status of the Goiter Problem." Among other visiting speakers will be Dr. W. McKim Marriott, St. Louis, "Newer Knowledge Concerning Nephritis"; Dr. Arthur Steindler, Iowa City, "Treatment of Mediastinal Abscess Complicating Dorsal Pott's Disease"; Dr. Donald MacRae, Jr., Council Bluffs, Iowa, "Emergency Lung Surgery", and Frederick L. Hoffman, Ph.D., Newark, N. J., "The Cancer Outlook." An excellent program of entertainment has been arranged.

INDIANA

License Reinstated.—The license of Dr. William B. Hartsock, Indianapolis, which was revoked, April 17, 1924, was reinstated, Jan. 12, 1926, says the state board of medical registration. Dr. Hartsock served a term in prison at Atlanta for violation of the Harrison Narcotic Law.

Moving Pictures of Smallpox.—Since February 14, the film "One Scar or Many" has been shown in the Gary schools ninety-six times to 12,880 children, portraying the various stages of smallpox and how it can be prevented by vaccination. As a result, the state board of health says, the school physician has vaccinated 1,481 children since February 14, and had more than 200 requests which had not yet been done. Before the film was shown this year in school, that is, from Sept. 4, 1925, to February 14, the total number of vaccinations performed by school physicians was 691.

IOWA

Guests at State Meeting.—At the seventy-fifth annual session of the Iowa State Medical Society, Des Moines, May 12-14, the visiting speakers will be Drs. Olin West, Chicago, Albert R. Mitchell, Lincoln, Neb., William J. Mayo, Rochester, Minn., Allen B. Kanavel, Chicago, Max A. Goldstein, St. Louis, Charles A. Elliott and William Allen Pusey, both of Chicago, George E. Price, Spokane, Wash., Franklin P. Gengenbach, Denver, Paul D. White, Boston, and John B. Deaver, Philadelphia. Thursday evening will be "guests and past presidents' evening"; the president, Dr. Smith A. Spilman, will give his address, and the secretary, Dr. Tom. B. Throckmorton, will present the guests and past presidents; Dr. Walter L. Bierring's subject will be "A Diamond Jubilee" and that of Dr. Charles Ryan, "Reminiscences"; there will then be an award of prizes for the best story pertaining to medical experiences, for the oldest member present, and for the best antique medical and surgical exhibit. The annual banquet will be Wednesday evening at the Hotel Des Moines. The scientific program comprises clinical demonstrations and addresses by the guests and prominent physicians of the state. Luncheons at the Wakonda Club, a matinee and bridge party in addition to the banquet and past presidents' evening have been arranged for the ladies.

LOUISIANA

State Medical Election.—At the forty-seventh annual convention of the Louisiana State Medical Society, Monroe, April 17, Dr. Stephen M. B. Blackshear, New Orleans, was elected president, and Dr. Arthur A. Herold, Shreveport, president-elect; Drs. James A. White, Alexandria, Courtland P. Gray, Monroe, and Remy G. Ducote, Bordelonville, vice presidents, and Dr. Paul T. Talbot, secretary-treasurer. The next annual meeting will be held in New Orleans.

New Orleans Tuberculosis Clinics.—The New Orleans Antituberculosis League's clinics were attended during Februray by 1,011 persons, a new high record; 133 of these were new patients and of them twenty-two were found positive for tuberculosis, and thirty-seven were placed under observation. The league has three morning clinics under the direction of Dr. Julius M. Davidson, and four afternoon clinics under the direction of Dr. George S. Brown. It is now possible, says the *Times Picayune*, that any one in New Orleans can receive at these clinics an examination for tuberculosis by experts.

Hospital News.—The report of the superintendent of Charity Hospital, New Orleans, notes that the John Dibert Tuberculosis Hospital, which was constructed as an associated unit, will be maintained without cost to the state; a new unit of 120 beds to Charity Hospital, made possible by public subscription, was opened last December, and ninety beds are in order. The hospital needs more nurses and interns, for whom there are now insufficient housing facilities.——The first unit of the Southern Baptist Hospital, New Orleans, was opened for the reception of patients, March 8; it has a capacity of 218 beds; when complete, the hospital will have a capacity of 800.

MISSOURI

Hospital News.—The Missouri Conference of the Methodist Episcopal Church has made plans to raise $300,000 for the Missouri Methodist Hospital in St. Joseph, the campaign to extend over a period of three years, the churches of St. Joseph to raise $50,000 annually, and other churches in the conference outside the city to raise a like amount.——The Missouri Hospital Association will hold its annual meeting, May 17, in St. Louis.

Attorney General's Opinion.—Attorney General Gentry has given an opinion to the city counselor of St. Louis, stating that a physician not licensed in Missouri, although he had served in the U. S. Public Health Service, cannot act as hospital commissioner of the city of St. Louis or director of medical and tuberculosis dispensaries, without first being examined by the state board of health as to his qualifications and obtaining a license to practice. The ruling was made to establish the right of Dr. R. A. Gunter, head of the Veterans' Bureau at St. Louis, to accept the appointment of tuberculosis controller of that city. The opinion removes all doubt as to the right of a person to practice in Missouri even though his practice is limited to state, municipal or county service on a salary basis, without a license. Physicians in the service of the United States government are exempted by statute while they are serving in their official capacity.

NEW YORK

Civic Award to Dr. Birkhaug.—The Women's Educational and Industrial Union of Rochester has made its initial civic award to Dr. Konrad E. Birkhaug, associate in bacteriology, University of Rochester School of Medicine, for his "contribution to medical knowledge and relief of human suffering." The award of $500 and a diploma was made by the president of the university, Rush Rhees, and the address of the evening was by George Barton Cutten, president of Colgate University, whose subject was "Rewriting History." The award is given for the most "outstanding service for the best interests of Rochester during the year." Dr. Birkhaug's contribution is said to have been in connection with research on the cause and treatment of erysipelas.

Society News.—Dr. Marion Craig Potter, Rochester, has been elected president of the Women's Medical Society, New York; Drs. M. Louise Hurrell, Rochester, Adelaide Dutcher, Syracuse, and Edith R. Spaulding, New York, vice presidents; Dr. Anna Harvey Voorhis, Yonkers, secretary, and Dr. Harriet F. Coffin, New York, treasurer.——Dr. Lewis Gregory Cole presented an illustrated paper, "Cinema of the Lungs," before the Medical Society of the County of Kings, April 20, and Dr. Stuart Pritchard, Battle Creek, Mich., gave an address on "Differential Diagnosis of Thoracic Affections." The society recently gave a series of sixteen health talks and motion picture demonstrations in one of the large department stores, which was a feature of its educational program.——At the April 15 meeting of the Brooklyn Ophthalmological Society, three cases were presented of blindness following the use in pneumonia of some of the newer quinine derivatives.——Dr. Samuel Parnass has been elected president of the Brooklyn Urological Society; Dr. Albert Harris, vice president, and Dr. Abraham Ravich, secretary-treasurer.

New York City

Dr. Gay Appointed Visiting Professor.—Dr. Frederick P. Gay, professor of bacteriology, Columbia University College of Physicians and Surgeons, has accepted an appointment as visiting professor to Belgium under the auspices of the Committee for Relief in Belgium Educational Foundation. Dr. Gay will remain abroad during the next academic year, lecturing on immunity at the Belgian universities in Brussels, Ghent, Liège and Louvain.

Appointments at Columbia.—Columbia University announces the appointment of Dr. Benjamin P. Watson, of the University of Edinburgh, as head of the department of obstetrics and gynecology with the rank of full professor; also the appointment of Dr. Joseph G. Hopkins, New York, as professor and head of the department of dermatology and syphilology and Dr. George M. MacKee as professor of dermatology and syphilology. Dr. Watson was born in Scotland in 1880 and received the M.B. and Ch.B degrees at the University of Edinburgh, where he became lecturer in obstetrics and gynecology in 1905. He was called to Toronto as professor of obstetrics and gynecology in 1912, and was also obstetrician and gynecologist in the Toronto General Hospital; from there he was called to the chair at Edinburgh. Dr. Watson was recently the Buchannan scholar in gynecology at the University of Edinburgh and Freeland Barlow fellow at the Royal College of Edinburgh. He was elected fellow of the American Gynecological Society in 1915. Dr. Hopkins was born in Brooklyn in 1882 and received the M.D. degree from Johns Hopkins University Medical School in 1907; he served there a two-year internship, was two years resident physician at St. Luke's Hospital, and for years after was bacteriologist and assistant attending physician at the same place. He was made assistant professor in the Columbia Department of Bacteriology in 1915, was bacteriologist with the Red Cross Commission in Serbia, and in 1918-1919 was in the Medical Corps in charge of Base Laboratory no. 3 at Winchester, England; on returning, he became associated with the dermatology department at Columbia and for six years has been affiliated as associate in roentgenology with the Crocker Laboratory. Dr. MacKee was born in Jersey City in 1878 and received his M.D. degree from New York University and Bellevue Medical College in 1899. After postgraduate work he entered the service of the late Dr. John A. Fordyce in 1903, then transferred to the Columbia Medical School in 1911 as chief of clinic and instructor; was professor of roentgenology in the Angle School of Orthodentia from 1905 to 1907; editor of the *Journal of Cutaneous Diseases* from 1909 to 1920, and is now on the editorial board of the *Archives of Dermatology and Syphilology*, also consulting dermatologist and syphilologist at various hospitals, and lecturer on cutaneous tuberculosis at the Trudeau School of Tuberculosis, Saranac Lake.

Twenty-Six Dermatologists Resign.—The New York *Times*, April 18, states that twenty-six members of the staff of the department of dermatology, Columbia University College of Physicians and Surgeons and of the Vanderbilt Clinic, resigned within the last week. Among the reasons given was that in selecting a head of the department of dermatology to succeed the late Dr. John A. Fordyce, the faculty of the medical college did not choose the senior member of the department, but selected his assistant. There was said to be a feeling among members of the staff that the governing body had failed to appreciate the service of men of large clinical experience in the treatment of disease and had placed too much emphasis on laboratory work. Those who resigned, according to the *Times*, were:

George M. MacKee
Fred Wise
Isadore Rosen
Joseph J. Eller
Elizabeth C. Jagle
Max Scheer
Elias W. Abramowitz
David Bloom
Harry C. Saunders
David Ballin
David L. Satenstein
Charles Lerner
Samuel Strumwasser
Myles Standish
Edwin D. Newman
Bernard B. Berkowitz
H. Norton
Frederick Amshel
Louis F. X. Wilhelm
Lotta W. Myers
Josiah P. Thornley
Samuel J. Littenberg
John H. Harris
Van Alstyne H. Cornell
Louis Tulipan
John Remer

OHIO

Society News.—Dr. Willard C. Stoner, director of medicine, St. Luke's Hospital, Cleveland, addressed the Hancock Medical Society, Findlay, April 7, on "The Problem of the Subacutely and Chronically Ill."

Chiropractors in Court.—The Ohio State Medical Board reports that the following chiropractors were recently convicted of practicing without a license:

H. S. Heimbaugh, Painesville, $25 and costs.
A. P. Jacobson, Fairport Harbor, $25 and costs.
L. S. Williams, of Grand Rapids, was convicted at Bowling Green.
Paul O. Mende, Ironton, $75 and costs.

Hospital News.—The Oxford Retreat, Oxford, has sold its main building and a portion of the ground to Miami University, and during the past year has been constructing a new modern, fire-proof stone building, which was opened, about April 15, for the use of mild mental cases.——The new Starling-Loving University Hospital, Columbus, has been in operation for about six weeks.——The Ohio Hospital Association and the Ohio Dietetic Association held their annual convention in Columbus, March 31-April 1; among the speakers at the annual dinner were Dr. Arthur C. Bachmeyer, Cincinnati; Dr. William H. Walsh, Chicago; Dr. Thomas A. Ratliff, Cincinnati; Dr. Clarence L. Hyde, Akron, and Dr. Edson J. Emerick, Columbus.——A dinner was given, March 11, at the Charity Hospital, Cleveland, in honor of Dr. Frank E. Bunts to commemorate his forty years' service to that institution; about 175 physicians were in attendance, and among the speakers were Dr. Thomas A. Burke, Dr. Carl A. Hamann, Dr. Joseph E. Cook, and Bishop Joseph Schrembs.——The Charity Hospital is conducting a campaign for $1,500,000 for remodeling and enlarging the hospital.

OKLAHOMA

Change of Date of Meeting.—The Oklahoma State Medical Association has changed the date of the next annual meeting to June 22-24, 1926. The reason given in the journal of the association is that the president and other men prominent in the association had been assigned to temporary military duty during the original date set for the meeting in May.

Revocation of License Sustained.—The Supreme Court of Oklahoma upheld the action of the Pottawatomie Superior Court in dismissing the application of Dr. Paul P. Oliver, Shawnee, for a writ of certiorari in connection with the revocation of his license to practice by the state board of medical examiners, after having been found guilty of unprofessional conduct.

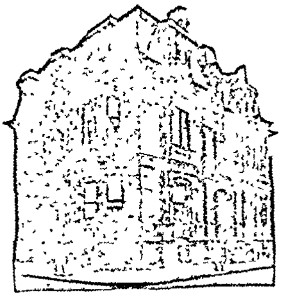
PENNSYLVANIA

Fifty Years in Practice.—Patients and friends of Dr. James M. Hamilton, Oakmont, a suburb of Pittsburgh, recently presented him with a new motor car on his completion of fifty years in practice in that community; in the near future the chamber of commerce will celebrate the occasion by the observance of "Hamilton night."

State Health Department Items.—The state department of health will conduct an exhibition at the Sesqui-Centennial in Philadelphia, which will show the progress in public health work in Pennsylvania in the last century; it will be in the left wing of the Pennsylvania Building.——A recent typhoid epidemic at Glenshaw, near Pittsburgh, was found to be due to a well polluted by seepage from a nearby cesspool.——Cumberland County has just formed a public health association and elected Dr. Henry C. Lawton, Camp Hill, president; a number of counties in the state have such organizations, the purpose of which is to correlate the work of the county units, state department of health and the state association.——There was an outbreak of smallpox recently at St. Mary's Monastery and St. Fidelis College, Herman, Butler County; three of the eight patients were priests and all of them had either never been vaccinated or had been vaccinated unsuccessfully. During the recent severe outbreaks of measles in various parts of Pennsylvania, the state department of health issued instructions concerning control, in which it disapproved the closing of schools to control outbreaks of measles or other contagious diseases. It was urged that daily inspections be made of all school children in search for early symptoms of disease, and that when a case is discovered in a classroom, the daily examination should be maintained for two weeks to discover other cases that might develop from the first exposure.——The death rate for diphtheria in the state recently has been the lowest ever experienced, representing a 50 per cent reduction since diphtheria immunization was begun by the state department of health in 1921.

Philadelphia

Society Dedicates New Home.—The Philadelphia County Medical Society dedicated its new home at Twenty-First and Spruce streets, April 20 and 21, with appropriate ceremony. Dr. Isidor P. Strittmatter, chairman of the building committee, presented the deed and keys of the building to Dr. Moses Behrend, president of the society, who made the principal address; among the other speakers were Drs. William W. Keen, Arthur C. Morgan and Hobart A. Hare, representatives of the chamber of commerce, the common pleas court, the law association, and the board of trustees of Jefferson Medical College. There was a housewarming Wednesday night with a musical program and dancing. The *Weekly Roster and Medical Digest*, April 17, celebrates the opening of this society home with reproductions of photographs of members prominent in the construction and dedication of the building.



SOUTH CAROLINA

State Medical Election.—At the seventy-eighth annual meeting of the South Carolina Medical Association, Sumter, April 6, Dr. George H. Bunch, Columbia, was elected president; Drs. William C. Black, Greenville, Charles J. Lemmon, Sumter, and William L. Pressley, Abbeville, vice presidents, and Dr. Edgar A. Hines, Seneca, secretary-treasurer, reelected. The next annual meeting will be held in Anderson, April, 1927.

TENNESSEE

Society News.—The Memphis and Shelby County Medical Society will celebrate its fiftieth anniversary, May 13, at the University Club; a nonscientific program and a banquet have been arranged.

Personal.—Dr. Barney Brooks, professor of surgery, Vanderbilt University School of Medicine, Nashville, addressed the Cincinnati, Ohio, Academy of Medicine, April 5, on "Diseases of the Circulation of the Extremities."

Hospital News.—The board of trustees of the Baptist Memorial Hospital, Memphis, will erect a nine story annex to the present building on Madison Avenue. The *Memphis Medical Journal* says that commercial shops and branch banks will be allowed space in the building.

University News.—Dr. James M. Skinner, Jr., McMechen, W. Va., Dr. Morton J. Tendler, New Haven, Conn., and Dr. James W. McElroy, Memphis, have been appointed resident surgeon and instructor in surgery, resident physician and instructor in medicine, and resident pathologist and instructor in pathology, respectively, at the University of Tennessee School of Medicine and the Memphis General Hospital.

TEXAS

Chiropractors Lose Appeal.—The U. S. Circuit Court of Appeals at New Orleans refused to grant an injunction, April 16, petitioned for by chiropractors of Texas, it is reported, to restrain the attorney general and others in the state from arresting them for practicing without a license as provided for in the Texas medical law of 1907.

State Medical Meeting.—The sixtieth annual session of the State Medical Association of Texas will be in Houston, May 25-27, under the presidency of Dr. Charles M. Rosser, Dallas, with headquarters at the Municipal Auditorium. There will be a luncheon daily at the Rice Hotel, addressed by prominent physicians. Dr. William Seaman Bainbridge will address a public session, Wednesday, on "Recent Investigations Into the Cause of Cancer and the Outlook for Prevention and Treatment," and the section on surgery on "Gastro-Intestinal Diverticula." The alumni banquet will be Tuesday evening, May 25, following the memorial exercises. In addition to prominent state physicians who will address the sections, Dr. William Engelbach, St. Louis, will speak on "Hair Growth and Pigmentation Related to Endocrine Disorders." The Texas Radiological Society and the Texas Federation for Health Education will hold their meetings during the session; also the Texas Railway Surgical and Hygienical Association.

VIRGINIA

State Board Election.—Dr. William T. Graham, Richmond, was elected president of the state board of health at the April 1 meeting, to succeed the late Dr. William M. Smith; Guy R. Harrison, D.D.S., Richmond, was elected vice president, and Dr. Lawrence T. Royster, University, secretary.

Personal.—Dr. Estridge P. White, Odd, has been elected president of the First National Bank of Poquoson.——Dr. Sidney L. Scott has been elected president of the chamber of commerce of Fredericksburg.——Dr. Louis E. Fuller, Callands, has been appointed a member of the school board of Pittsylvania.——Dr. and Mrs. William T. McLemore, Courtland, celebrated their silver wedding anniversary, April 3.

Hospital News.—The proposed hospital for crippled children to be erected in Richmond by the Shriners will be on a site of about 9 acres, recently purchased, on Grove Avenue west of the belt line.——The $60,000 required to be raised for a hospital by the community of Farmville, for which the Commonwealth Fund will give $120,000, was almost all subscribed at last accounts, and it was expected that the contract for the hospital would be let in April.——At the celebration of the twentieth anniversary of the Elizabeth Buxton Hospital, Newport News, February 23, the staff presented a memorial tablet of the late Dr. Edwin M. Newsom.——A twenty-four room building is being added to the Seaside Cottage Sanatorium at Virginia Beach which will open, June 1, under the supervision of Drs. William L. Harris and Claiborne Willcox. The resident physician will be Dr. Cora Z. Corpening.

WEST VIRGINIA

Miscellaneous Items.—The West Virginia Medical Association will hold its annual meeting at Morgantown, May 25-27.——There were about twenty deaths in the state in January and February due to measles; about 983 cases were reported in February, twice the number reported in January.

WISCONSIN

Society News.—Dr. Harry Gideon Wells, Chicago, addressed the Medical Society of Milwaukee County, Milwaukee, April 9, on "The Influence of Heredity on the Occurrence of Cancer in Man."

Milwaukee's Health Report.—The general death rate in Milwaukee in 1925 was 10.6, and the infant mortality 77; both slight increases over 1924, but lower than the average for the last five years. There was a smallpox epidemic in 1925 in which eighty-seven people died; there were 381 cases of acute alcoholism admitted to hospital, as compared to 376 the year before. Pneumonia caused 717 deaths, or 196 more than the year before; heart disease came second, with an increase over the preceding year; then cancer, cerebral hemorrhage, nephritis and pulmonary tuberculosis. There were 336 prosecutions for violations of laws which protect the public health. Among the ordinances passed in 1925 was one which requires eating places to serve milk in the original bottles, and one requiring all food venders to obtain a license from the health department. There were fewer deaths from typhoid and scarlet fever; 12,229 treatments with toxin-antitoxin for the prevention of diphtheria were given. The bacteriologic laboratory made more than 53,000 examinations, and the nurses of the health department made more than 300,000 inspections of children in the schools for contagious disease.

GENERAL

Sex Differences in Mental Traits.—An extensive bibliography of "Sex Differences in Mental Traits," prepared by C. M. Louttit of Yale University, New Haven, Conn., is reprinted in the April number of *Welfare Magazine*, published by the department of public welfare of the state of Illinois at Springfield.

National Hospital Day.—May 12 has been set aside as National Hospital Day in order to make people better acquainted with hospitals. There is to be no solicitation or drive. The American Hospital Association will issue a certificate of award to be given to that hospital whose hospital day program is considered most meritorious; hospitals are requested to send to the association details of their program and other material which indicate how effective it was.

Committee Favors Retired Pay for Nurses.—There has been favorably reported from the Senate Committee on Military Affairs a bill providing for retirement pay for army and navy nurses. The bill has the approval of Secretary of War Dwight F. Davis and was endorsed also by his predecessor, Secretary J. W. Weeks; it recognizes the fact that nurses are an integral part of the military establishment and that they should have the same privileges with respect to retirement pay as are now awarded to regular army and navy officers after a definite period of service.

Delegation to Study Trachoma Among the Indians.—The New York *Times*, April 25, notes that a delegation of ophthalmologists and others left the previous day to inspect Indian reservations in Oklahoma in an effort to check trachoma. The delegation includes Dr. Benjamin Franklin Royer, medical director, National Committee for the Prevention of Blindness; Dr. Arthur M. Yudkin, Yale University School of Medicine, New Haven, Conn.; Dr. William H. Wilder, Chicago; and Dr. Thomas B. Holloway, University of Pennsylvania School of Medicine.

Pan-American Health Conference.—Surg. Gen. Hugh S. Cumming, U. S. Public Health Service, has issued invitations to health officers in the twenty-one countries which comprise the Pan-American Health Conference, for a meeting in Washington, D. C., September 27-29, when problems of health administration and disease control will be discussed. It is expected that one or more health officers from each country will be present and remain to attend the meeting of the International Union Against Tuberculosis, which will be held in Washington, September 30-October 2.

Society News.—Dr. William H. Kiger, Los Angeles, has been elected president of the American Proctologic Society for the ensuing year; Dr. George W. Combs, Indianapolis, vice president, and Dr. Louis A. Buie, Mayo Clinic, Rochester, Minn., secretary-treasurer.——At the annual meeting of the New England Dermatological Society, April 14, Dr. Charles Morton Smith, Boston, was elected president, and Dr. Walter T. Garfield, 19 Bay State Road, Boston, secretary.——At the annual meeting of the Medical Women's National Association, Dallas, Texas, April 18-19, Dr. Frances E. Rose, Spokane, Wash., was elected president; Dr. Elizabeth B. Thelberg Poughkeepsie, N. Y., president-elect; Dr. Ethel Doty Brown, treasurer, and Dr. Maud Parker, Seattle, secretary.

Sight Saving Classes.—The managing director of the National Committee for the Prevention of Blindness announces that a course for training teachers for sight saving classes will open, June 21, at the University of Cincinnati and continue for six weeks. Full credit will be given by the university for this work. Applications for registration have been received from a number of states. The work includes: theories and methods of supervision and organization of sight saving classes; theories and methods of teaching sight saving classes, and courses in elementary and advanced eye work. There are said to be in the United States 242 sight saving classes, which is far below the number needed to educate properly children who have seriously defective vision and who therefore need special educational facilities. A lack of teachers is said to be the principal difficulty in the way of establishing more sight saving classes.

International First-Aid Contest.—Under the auspices of the U. S. Bureau of Mines, the fifth International First Aid and Mine Rescue Contest will be held in the Civic Auditorium, San Francisco, and the Greek Theater of the University of California, Berkeley, during the first week of September. The object of this annual event is to train miners in first aid and rescue methods in order to advance the cause of safety among miners. The contest in first aid and mine rescue will be for international championships; cups, medals and prizes will be awarded to the winners. A feature of the meeting will be the award of the Congressional Medal, which is given to the team of miners most thoroughly skilled in first aid and mine rescue methods. Judges thoroughly familiar with this work will make the awards in accordance with standards of the bureau of mines. All organizations interested in the contest are invited to enter first aid and mine rescue teams. Entry blanks and other information can be obtained from the Experiment Station, Bureau of Mines, 4800 Forbes Street, Pittsburgh.

American Society for the Control of Cancer.—At the business meeting in March in New York of the American Society for the Control of Cancer, the managing director, George A. Soper, Ph.D., reported that he had spent three months in Europe interviewing about fifty eminent students of cancer and seeing cancer clinics and hospitals, and had made arrangements for a visit to this country in September of distinguished cancer specialists. The society is now endeavoring to increase its endowment to at least $1,000,000. Mr. John D. Rockefeller, Jr., has just contributed $125,000 toward the expense of the society's work, and made an additional offer of $10,000 toward the expense of the meeting of specialists to be held in September. The field secretary of the society in the last year addressed medical and lay audiences in every state except two, and collected information about the society's work throughout the country. Preparations have been made to conduct an educational campaign throughout the country in the immediate future with "ammunition" of a more effective character than has been used heretofore; this campaign will not be of the "cancer week" variety, but of a longer and less intensive character. The results of this work will depend largely on the state cancer organization; an Eastern state is perfecting an elaborate organization to promote a three year campaign of exceptional thoroughness.

Bequests and Donations.—The following bequests and donations have been announced recently:

St. Luke's Hospital, Davenport, Iowa, $10,000, and the Visiting Nurses Association, Davenport, $1,000, by the will of the late Mrs. Susan C. Francis, Davenport.

The Mount Sinai Hospital, $10,000, by the will of the late Rosa Hochstader.

The Presbyterian Hospital, Charlotte, N. C., $15,000, by the will of the late Mrs. W. S. Alexander.

The will of the late J. Adolph Mollenhauer of Brooklyn provides bequests of $5,000 each to the Lutheran Hospital Association, New York; the South Side Hospital, Bay Shore, L. I.; the Industrial Home for the Blind, New York, and the Visiting Nurses Association, New York, and $10,000 to the House of St. Giles the Cripple, New York.

The Samaritan Hospital and Temple University, each $1,500, by the will of the late Mary J. Mabie.

Pennsylvania Hospital, Philadelphia, $1,000, and the Federation of Jewish Charities, $4,000, by the will of the late Louis Kohn.

The Presbyterian Hospital, Philadelphia, $5,000 to endow a free bed, by the will of the late Sarah I. Alvord.

The St. Luke's Hospital, New Bedford, Mass., $25,000; the Association for the Relief of Aged Women, New Bedford, $10,000; Yale University, New Haven, Conn., $100,000, by the will of the late William W. Crapo of New Bedford.

The Memorial Hospital, New York, $25,000, by the will of the late James Jackson Storrow of Boston.

St. Luke's Hospital of Newburgh, N. Y., $5,000, by the will of Jessie M. Gibson of Yonkers.

The Huntington Hospital, Huntington, L. I., $10,000, by the will of the late Mrs. Emma Hewlett.

The Brooklyn Home for the Blind, Crippled and Defective Children, St. Peter's Hospital, Holy Family Hospital, Little Sisters of the Poor and the Nursing Sisters of the Sick Poor, Brooklyn, each $500, by the will of Catherine Donigan.

The Philadelphia Home for Incurables, $15,000, to endow free beds in memory of her parents; the Presbyterian Hospital, Philadelphia, $10,000, to endow beds in memory of her brothers, and the Home of the Merciful Saviour for Crippled Children and the Children's Seashore House, Atlantic City, $5,000 each, by the will of the late Jennie Forrest.

The Home for Old Men and Aged Couples, New York, $17,000, and the New York Association for the Blind, $2,632, by the will of Cora C. Withers.

The Michael Reese Hospital, Chicago, $600,000, by the will of the late Henry L. Frank.

The St. Rose Home for Cancer, New York, $1,000, by the will of Bertha French.

The Home and Hospital, Findlay, Ohio, $12,000, by the will of Maretta Lenhart.

The Union Hospital, Terre Haute, Ind., $40,000, by the will of Martin A. Sheets.

Dr. Carl A. Grote has donated $10,000 to the Huntsville Hospital, Huntsville, Ala., as a memorial to his father.

The Addison Gilbert Hospital, Gloucester, Mass., $15,000, by the will of Lucy Brown Davis, for the support of a room to be named in honor of the donor.

The Bryn Mawr Hospital, Bryn Mawr, Pa., $100,000, by the will of John Howard Supplee of Rosemont, as a memorial to his son.

The Jewish Sheltering Home and the Jewish Home for the A
Rochester, N. Y., each $500 by the will of Augusta Black.

The Beth Israel Hospital, New York, $250, by the will of the late Simon Abrons.

The Women's Hospital, New York, $300,000, by the will of the late Mrs. Mary Clark Thompson.

The State Charities Aid Society of New York, $500,000, and the Charity Organization Society of the City of New York, $25,000, by the will of the late Mrs. Anna M. Richardson Harkness.

Roosevelt Hospital, New York, $100,000, by the will of the late Mrs. Mary E. Jesup, as a memorial to her husband, and with the proviso that only the income of the fund be used by the hospital.

The Jewish Hospital, Brooklyn, $1,000, by the will of Monday Esther.

The New York Society for the Prevention of Tuberculosis and the Jewish Hospital for Consumptives, Denver, $1,000 each; the Trudeau Sanatorium, Trudeau, N. Y., Saranac Lake, and the Society for the Prevention of Tuberculosis, Saranac, N. Y., $500 each, by the will of Harry E. Schwarz.

PORTO RICO

Dr. Hill Goes to Venezuela.—After six years of public health work in Porto Rico in connection with the Rockefeller Foundation, Dr. Rolla B. Hill has been selected to represent that organization in Venezuela in the same capacity; he sailed for New York, March 11, after having been the guest of honor at a luncheon tendered by the commissioner of health of the island. Dr. Hill came to Porto Rico in 1920 to cooperate with the department of health in a campaign against the hookworm, and since July, 1925, has been medical adviser to the bureau of rural sanitation, in which office he will be succeeded by Dr. Florence A. K. Payne of the International Health Board.

FOREIGN

International Union Against the Venereal Peril.—The first number of the *Bulletin* issued by the *Union Internationale contre le Péril Vénérien* gives the history of the society and its aims. Thirty-four countries are officially represented in the union.

Success of Antityphoid Vaccination.—The recent extensive inundations in the lower Rhine region caused much alarm from fear of typhoid, but our Belgian exchanges state that quantities of antityphoid vaccine were donated and used in the flooded regions in Belgium, and the danger of an epidemic was averted.

Italy Bars Birth Control.—A cable dispatch notes that the minister of the interior of Italy has installed a committee to protect the families of that country against "insidious, practical, pseudoscientific neomalthusian propaganda." The minister is reported to have said that Italy is now seriously affected by birth control propaganda and that it has been decided to protect the family by decreasing infant mortality and conquering "egotistic birth control propaganda."

New Medical Journal.—The first number, that of January, of the *Malayan Medical Journal and Estate Sanitation* has been received. It is said to be the only medical journal published in Malaya, and will publish material peculiar to that region. The editors are Drs. T. S. Macaulay, G. B. McHutchison, J. J. Hicky and W. Thunder. It is to be a quarterly record of medicine and surgery, with especial reference to tropical medicine and estate health.

Personal.—Dr. C. Baastrup, the radiologist of the Bispebjærg Hospital, Copenhagen, has been elected a member of the French Société de radiologie médicale.——Dr. C. van Veen, Helmersstraat 206, Amsterdam, was the secretary of the first Netherlands pedagogic congress which met at Amsterdam April 8.——Dr. Duchateau was the representative of the government at the exposition of the work of women at the family placement colony at Gheel. For centuries Gheel has been an important element in the care of the docile insane in Belgium. The wives of the five local physicians have recently been encouraging the women in handiwork, and the results have been excellent from the therapeutic as well as the artistic standpoint, according to the *Scalpel* of Brussels.——Dr. J. Leclercq delivered an address on "The Time Required for Nerve Impulses During Work" at the recent inauguration of the university Institut des sciences sociales at Lille.——Dr. Carteado Mena, Oporto, has had to have part of his right hand amputated on account of professional roentgen-ray injuries, the first victim of the kind in Portugal.——The Engadine region has been celebrating the twenty-fifth anniversary of the introduction of heliotherapy into scientific medicine by Dr. Oskar Bernhard, who has practiced in the Engadine for forty years. As a final, desperate resort in a case of a grave wound which had absolutely refused to heal, he recalled the sterilized and shriveled condition of sundried thin strips of beef, the charqui or jerked beef of South America.

Government Services

Appointments and Resignations in Veterans' Bureau

The April issue of the U. S. Veterans' Bureau *Medical Bulletin* notes the following appointments and resignations of physicians in the Veterans' Bureau at the hospital indicated:

Dr. E. L. Hunt appointed pathologist, Hospital 89, Dec. 1, 1925.
Dr. Herman Judd, resigned at Hospital 98, Dec. 31, 1925.
Dr. Harold T. Nesbit, resigned at Hospital 65, Feb. 28, 1926.
Dr. Ambler B. Patton, resigned at Hospital 60, Dec. 4, 1925.
Dr. Waldermar G. Richter, appointed at Hospital 86, Dec. 1, 1925.
Dr. Wilmarth Y. Seymour, appointed at Hospital 62, Dec. 16, 1925.
Dr. George S. Silliman, appointed at Hospital 103, Dec. 28, 1925.
Dr. James A. Smart, appointed at Hospital 88, Jan. 21, 1926.
Dr. Hyman D. Shapiro, resigned at Chicago (Central Board of Appeals, Area D), Jan. 14, 1926.
Dr. Benjamin A. S. Stephenson, resigned at Hospital 69, Feb. 17, 1926.
Dr. Henry O. Witten, resigned at Hospital 42, Jan. 10, 1926.

U. S. Public Health Service

Surg. Marshall C. Guthrie was relieved from duty as executive officer of the bureau, Washington, D. C., March 26, and directed to report to the Secretary of the Interior for duty in connection with the Indian Medical Service.——Acting Asst. Surg. Gordon B. Carr was directed, March 27, to proceed from Sturgis, Ky., to Chicago for duty in Marine Hospital no. 5.——Surg. Joseph Goldberg was directed to proceed from Washington, D. C., to New York, March 29, and return in connection with pellagra studies.——P. A. Surg. Kenneth F. Maxcy will be relieved from duty at Montgomery, Ala., May 1, when he will report to the director of the hygienic laboratory, Washington, D. C., for duty. Drs. Marion F. Haralson and John F. Mahoney have been promoted and commissioned in the grade of surgeon, effective March 18, 1926.——Lieut. M. Rogers has been promoted and commissioned in the grade of passed assistant surgeon, U. S. Public Health Service, effective, April 5.

Navy Orders

Lieut. Comdr. Reynolds Hayden has been ordered to the naval training station, Hampton Roads, Va., for duty; Lieut. Waldo E. Golden to the naval hospital, Great Lakes, Ill.; Lieut. Comdr. Fenimore S. Johnson to the naval hospital, New York; Lieut. James Humbert to the recruit barracks, Hampton Roads, Va.; Lieut. Comdr. Horace V. Cornett to the naval hospital, League Island, Philadelphia; Lieut. Comdr. Harry R. Hermesch to the navy yard, Washington, D. C.; Lieut. Francis E. Tierney to the naval air station, San Diego, Calif.; Lieut. George W. Wilson to the naval hospital, Puget Sound, Wash., and Lieuts. Charles R. Tatum and Arthur S. Judy to Port au Prince, Haiti.

Summer Camps for Reserve Officers

Surgeon General Merritte W. Ireland, announces that the medical department of the army will maintain camps this summer for the military training of physicians who have commissions in the medical reserve corps. The war department has selected four camps for training physicians at Carlisle Barracks, Pa.; Fort Snelling, Minn.; Fitzsimons General Hospital, Denver, Colo., and Camp Lewis, Washington. Officers of the various sections of the medical reserve corps, who can accept training, will have the advantage of full field instruction, including tactics and technic of operation of divisional medical units. Troops will be available to demonstrate the operation of these units. It is proposed to make the training intimate and practical, presenting to reserve officers the opportunity to exercise command and execute plans simulating actual conditions that will prevail when they are called in emergencies. The training is for a period of two weeks at each camp during June and July, respectively. The camps open June 13 and close June 27 at Fort Snelling and Camp Lewis, and open June 16 and close June 30 at Carlisle Barracks, Pa. The camps for the month of July open July 4 and close July 18. Members of the medical reserve corps who desire to attend camp should apply to the commanding general of the corps area in which they reside. Transportation is paid to and from the camps, and reserve officers receive the same pay and allowances granted to regular army officers of like grade. A limited number of reserve officers can be accommodated at the camps; medical reserve officers are urged, therefore, to mail their applications promptly to the commanders of the corps area in which they reside.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 10, 1926.

Government Bill to Prevent Lead Poisoning

The text has been issued of the lead paint (protection against poisoning) bill, introduced by the government to make better provision for the protection against lead poisoning of persons employed in painting buildings. The home secretary is given power to make regulations: (*a*) for prohibiting the use of any lead compound except in the form of paste or of paint ready for use; (*b*) for the prevention of danger arising from the application of lead paint in the form of spray; (*c*) for the prevention so far as practicable of danger arising from dust caused by dry rubbing down and scraping; (*d*) for providing for the medical examination of persons employed in or in connection with painting with lead paint, and for the suspension from such employment of persons whose health is or appears likely to be injuriously affected thereby; (*e*) for securing facilities for washing during, and on cessation of, work to persons employed in painting; (*f*) for the use of protective clothing by persons so employed and for preventing clothes left off during work from being soiled by paint, and (*g*) for the distribution to persons so employed of instructions with regard to hygienic precautions to be taken. Clause 2 prohibits, after Nov. 19, 1927, the employment of women and young persons in painting buildings with lead paint, with the exception of apprentices in the painting trade under approved arrangements, and women or young persons engaged in decorative or other work excluded from the provisions of this section by an order of the secretary of state. Another clause gives power to an inspector under the factory and workshops act to take samples.

The Apologia of the General Medical Council

The press campaign against the general medical council because of its removal from the register of physicians guilty of trying to obtain patients by articles in the lay press, or of "covering" unqualified practitioners, has been described in previous letters. As much misconception exists, among not only the public but also the medical profession with regard to its functions, the council has issued a long memorandum on its constitution and functions. The council was created nearly seventy years ago by parliament, not with the purpose of promoting the welfare of professional men or professional corporations or of putting down quackery or even advancing medical science. The object was simply to protect the public. The preamble of the act of 1858 consists of two lines: "Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners, Be it therefore enacted. . . ." Up to that time no easily understood line was drawn between the "qualified" and the "unqualified," and when the public desired to make a choice it was frequently at a loss. The act set up machinery for, as it were, "hallmarking" the qualified practitioner, so that he might easily be recognized. But the public was left free then, as it is free now, to seek "medical aid" from the unqualified practitioner. And the unqualified practitioner was left free then, as he is free now, to practice for gain among those who choose to employ and pay him. He was forbidden, under penalties, to pretend that he was qualified, by taking a title he did not possess; he might not use the courts for the recovery of his charges; he could not give a valid certificate of sickness or death; and now by the regulations made under the dangerous drugs act he cannot prescribe certain dangerous drugs, such as cocaine or morphine; but except for these and a few other not very inconvenient disabilities, he was untouched by the law. On the other hand, the "qualified" men, as a setoff to their new legal status and official recognition, were subjected to a new central control, educational and disciplinary. They obtained no monopoly of practice among the public in general. They were afforded no especial "protection" against the competition, not always scrupulous or insignificant, of the uncontrolled unqualified practitioner. The qualified practitioners might fairly have claimed that it would be good for the public, as well as for themselves, if monopoly of practice and protection against the competition of the untrained had been conferred on them. In other countries, and in other parts of the dominions, the restriction of practice to the qualified is with general consent and approval enforced by law. There, any unqualified person who habitually and for gain practices or holds himself out as practicing any branch of medicine or surgery is liable to severe penalties. In this country, indeed, the practice of dentistry and the practice of midwifery have been by law restricted to qualified persons. But in these days it requires some resolute ignoring of the signs of the times to believe that, in this free country, legislation restricting the practice of medicine and surgery to qualified persons only is either probable or possible in the near future. In one significant respect, however, the council is empowered to "protect" the aspirant to qualification—not against the competition of the unqualified, but against the possible action of the licensing bodies imposing on any candidate an obligation to adopt or refrain from adopting the practice of any particular theory of medicine or surgery, as a test or condition. Once a practitioner has been trained and tested in the knowledge essential for public safety, he may adopt any "theory" of medicine or surgery in which he honestly believes. Indeed, at present some qualified practitioners are engaged without any hindrance in such crank practices as osteopathy and the use of the Abrams diagnostic box.

An Inquiry into Osteopathy

In a letter to the *Times*, Sir Montague Cotterill, a surgeon, points out that there are a certain number of duly registered physicians in this country who, in addition to their ordinary medical qualifications, have taken an opportunity of becoming conversant with the methods and the practice of osteopathy. It is said that these men have thus cured or relieved certain ailments that had failed to be successfully treated by the ordinary methods in vogue in medical practice. Before coming to the conclusion that these cures have been really due to some special osteopathic treatment, one must carefully bear in mind that, contrary to the general public opinion, the medical profession is fully aware of and sets a great value on the curative potentialities of what is commonly called "suggestion," which it prefers to describe as "possessing the confidence of the patient," with all that that entails. To what extent, then, does "suggestion" play a part in the reputed successess of osteopathy? In ordinary medical life any man fortunate enough (as Lister and others have been) to make a discovery, or become possessed of knowledge in any sphere of the healing art which we deem would be of service to the medical world in its important services to the public he would consider it not only imperative but also his greatest pleasure and privilege to impart his knowledge immediately, in all its details, to his medical brethren. One would have thought that the osteopathic registered physicians in this country would in like manner have taken every opportunity of imparting in the fullest way, and at the earliest moment, the details of the special lines of osteopathic treatment which they claim to be of such extraordinary value. But no offer of this kind has been made.

Sir Montague Cotterill suggests that there be appointed a committee consisting of authorities in anatomy, physiology, pathology, medicine and surgery. After an exhaustive investigation of all the matters concerned (and this could not be done except by a visit, extending over several weeks, to the chief school of osteopathy in America), these men would give a report, which would be accepted by the profession.

Physician Fined for Breach of Dangerous Drugs Regulations

At the mansion house before the lord mayor, a physician was summoned for having failed to comply with the provisions of the dangerous drugs act, in that, having supplied quantities of morphine to a person unknown, he did not enter or cause to be entered in a register kept for the purpose all dealings in that drug effected by him in the form and containing the particulars required; namely, did not enter the name or address of the person to whom the drug was supplied by him, and, being a qualified medical practitioner, did not record in a day book the name and address of the patient to whom the drug was supplied by him contrary to the dangerous drugs act. The prosecuting attorney said that this charge conveyed not the slightest reflection on the personal honor of the defendant. It was at the same time a matter of some importance because it was the policy of the home office to insist on the absolute compliance by every physician with the dangerous drugs act. A physician who supplied morphine to any of his patients must either keep a register in the form provided by the act, which must show the name and address of the patient to whom the morphine was given, or he must keep a day book in lieu of the register, which must also contain the name and address of the patient. The sole point in this case was that the physician declined to disclose either in the record under the schedule of the act or in the day book the name and address of the patient for whom he stated that he had been for more than twelve months in the habit of procuring from a pharmacist weekly a regular supply of morphine. Interviewed by a health officer of the ministry of health, he said that he did not now carry on a general practice, but he said that some of his old patients in the North of England had moved to London, and he saw them in a friendly way. Two of them, he said, were morphine addicts, and had asked him to treat them. One of them, a woman, he had succeeded in curing, and the other, a man, was improving as a result of his treatment. Another health officer called on the defendant, who said that his patient was 70 years of age and was improving. He declined to give the name and address of the patient. He did not consider that he ought to disclose the identity of the patient, who was struggling to be free from the necessity of taking drugs. The lord mayor said he had come to the conclusion that there had been a breach of the regulation, but, as in all probability this was a test case, he would impose only a nominal penalty of $125, with $50 costs.

Committee on Vaccination

The minister of health, in conjunction with the medical research council, has appointed a committee to inquire into and report on (1) matters relating to the preparation, testing and standardization of vaccine lymph; (2) the practical methods available in the light of modern knowledge to diminish or remove any risks that may result from vaccination, and (3) the methods of vaccination most appropriate for protection against the risk of smallpox infection in epidemic and nonepidemic periods; and to coordinate the work of investigation of these questions in this country and abroad, having regard to corresponding work undertaken by international health organizations. The committee consists of Sir Humphry Rolleston, president of the Royal College of Physicians (chairman), Dr. Mervyn H. Gordon, and others.

BELGIUM

(From Our Regular Correspondent)

March 6, 1926.

Radium Therapy in Cancer of the Cervix Uteri

Addressing the Société belge de chirurgie, Dr. Delporte summed up his opinion on treatment of cancer of the cervix as follows: "The Wertheim operation was the first step toward the proper treatment of cancer of the cervix. Irradiation constitutes the second stage. Today radium therapy should replace surgery." With respect to the Wertheim operation, he states that (1) 43 per cent of the cases are operable, while 60 per cent of the cases are abandoned; (2) there are difficulties of technic; (3) the operative mortality is from 10 to 15 per cent; (4) cure of operable cases, after five years, results in from 30 to 45 per cent, and (5) 60 per cent of the inoperable cases are abandoned. From the standpoint of radium therapy, however, he observes that (1) all cases are treated; (2) there is no technical difficulty; (3) there is no primary mortality; (4) cure of operable cases, after five years, results in from 30 to 40 per cent, and (5) cure of inoperable cases, after five years, in from 10 to 14 per cent.

Deep Irradiation with Gamma-Rays

Before the Société belge de gynécologie and the Société de physiothérapie, Dr. Sluys recently exhibited new radium applicators that obviate irradiating the skin unnecessarily. The radium is enclosed in lead capsules, thus restricting the direct cone of rays and absorbing the lateral rays that cause the surface tissues to receive a useless overdosage. This method makes it possible by means of crossfire irradiation to apply to the deeper tissues a summation of fairly large doses of radium without injuring the skin unduly, owing to the fact that the portals of entry do not overlap. The increased distance of the tubes requires considerable doses of radium. The appliance is adjustable to the region to be irradiated and the position of the patient. It is attached to an *appareil moulé* which arrests the secondary rays, aids in localizing the region to be irradiated, and makes it possible to measure the amount of irradiation.

Lingual Neuritis

Dr. Polus has communicated to the Société belge de stomatologie several cases of pain in the back and tip of the tongue. In all he found an infected lower wisdom tooth. Extraction of the tooth effected a cure in four to eight weeks.

Government Control of Mineral Waters

The Société belge d'hydrologie et de climatologie médicale has prepared a prospectus in which it defines natural and artificial waters. It suggests that every enterprise having for its object the collecting, exploitation, treatment, production and sale of drinking waters and mineral waters should be subject to government authorization. Such authorization should be dependent on the chemical analysis, bacteriologic examination, physical and chemical properties, location of the source, and conditions under which the water is collected. Furthermore, the trade name may not be identical with that of any other water already authorized in Belgium. A water may not have a geographic name unless a second name is added. Containers must bear labels showing the contents, whether natural or artificial water. Natural waters shall be understood to mean only waters that are offered for sale in the condition in which they are furnished by nature. Artificial waters which contain added substances must be so labeled and may be sold only by pharmacists. Two kinds of natural waters must be distinguished: (1) medicinal waters and (2) table waters. A special commission, serving under the Conseil supérieur d'hygiène, will supervise enforcement of the regulations.

Surgical Treatment of Varicose Veins

At a recent meeting of the Société belge de chirurgie, Dr. De Beule stated that he had employed all the surgical forms of removal of varicose veins, and that at present he is using sclerosing injections. De Beule employs mercuric iodide or sodium salicylate. A simple procedure is first to ligate the internal saphenous vein, which allows the injection of a greater quantity of liquid. De Beule injects sometimes as high as 15 cc. of a 20 per cent solution. The procedure makes it possible to distribute the liquid throughout the whole extent of the vein. There have been no untoward results in about sixty cases. The patient should stay in bed for a week, and the leg should be provided with a tight-fitting bandage, as in the treatment of phlebitis.

ITALY

(From Our Regular Correspondent)

Feb. 28, 1926.

International Congress of Surgery

The seventh International Congress of Surgery will be inaugurated in Rome, April 7, with Professor Giordano, senator, and surgeon of Venice, in the chair. The following subjects will be discussed: Radium therapy in uterine cancer, by Bentner, Geneva; Donaldson and Fosdick, London; Pestalozza, Rome; Recasens, Madrid, and Regaud, Paris. Abscess of the liver, by Dominici, Sassari, Italy, and Petridis, Alexandria, Egypt. Therapy in cerebral tumors, by Adson, Rochester, Minn.; Bastianelli, Rome; Brun, Lucerne; De Martel, Paris; Lozano, Saragossa, and Percy Sargent, London. Surgery of the spleen, by Cortes Llado, Seville; Henschen, Saint Gallen; Leotta, Bari; Papagannon, Ghezireh, and Ratel, Lyons. An exhibit of sanitary equipment will be held at the congress.

Society for the Study of Tuberculosis

The Società di studi sulla tubercolosi, founded by the Società di medicina interna following the congress of Padua, will hold its first congress in Milan in October. The main theme on the program, "Pneumothorax in the Treatment of Pulmonary Tuberculosis," will be treated by Professors De Bonis of Naples and Carpi and Ronzoni of Milan.

Defense Against Malaria

At a meeting of the Accademia dei Georgofili, held in Florence, March 7, Prof. Giacomo Del Guercio read a paper entitled "A Contribution to the Study of the Defense Against Malaria," in which he communicated researches on a microorganism that opposes malaria. This microbe attacks not only the adult parasite but also the larvae and nymphs found in the water.

A Celebration in Memory of Maurizio Bufalini (1787-1875)

In celebration of the fiftieth anniversary of the death of Maurizio Bufalini, who may be regarded as the founder of modern Italian medicine, Cesena, his native city, held, December 20, a procession which deposited a wreath on Bufalini's monument and a formal gathering at which the ideas of the master were set forth by various speakers. In memory of the occasion a monograph by Prof. Augusto Murri, a pupil of Bufalini, pointed out the master's importance as an educator of physicians. A memorial by Professor Cardi also demonstrated Bufalini's ideas with respect to the medical curriculum.

An Historical Institute of the Art of Healing

The Istituto storico italiano dell' arte sanitaria was established, some time ago, and has for its object the collection and display in a special museum in Rome of material pertaining to the healing art. The important collections belonging to the Museo Flajani in Rome have already been transferred to the new institute, and further valuable material will be contributed by the civil hospitals of Turin, Vercelli and Alexandria, and by the war department. The minister of the interior has urged the prefects of the realm to induce hospital administrations and health societies in their districts to contribute material.

Recognition of War Service in the Adjustment of Pensions of Health Officers

According to a recent decree which increases pensions of health officers, every war campaign is reckoned as a year of service, and the dues that those insured in the Cassa di previdenza (government insurance fund) would otherwise pay are remitted for a corresponding length of time.

A Biennial Hygienic and Health Exhibit

The governor of Rome is considering founding in that city a biennial hygienic and health exhibit, which will serve as a clearing-house for the innovations of the various nations and regions of Italy that take part. Each successive exhibit will be directed toward a different branch of hygiene and sanitation.

The Antigoiter Crusade

Prof. Giuseppe Sangiorgi, director of the hygienic institute of the University of Parma, has recently conducted a scientific inquiry on goiter in Piedmont, a region of Italy in which endemic goiter is prevalent. The inquiry has proved that the contributory causes usually invoked, such as syphilis, alcoholism and consanguineous marriages, are of little or no significance in the genesis of hyperthyroidism. It has also confirmed that cretins ordinarily develop symptoms soon after birth, following an attack of sickness. A point of contact with Brazilian trypanosomiasis confirms Professor Sangiorgi in the hypothesis that cretinism may be a parasitic disease. And since the surroundings in which cretins live are usually unhygienic, their dwellings being often mere shacks, Professor Sangiorgi urges that the authorities improve the dwellings in affected regions as a prophylactic measure. For a number of years past, iodized chocolate wafers have been distributed to the school children in certain districts of Piedmont. The practice has now been extended to the whole civil population by means of table salt containing 1 Gm. of potassium iodide per hundredweight of salt.

NETHERLANDS

(From Our Regular Correspondent)

March 6, 1926

Working Hours of Nurses

There are still some institutions in which the working day for nurses comprises eleven or even eleven and a half hours. Persons most concerned recently voted to address the government with a demand for regulation.

The Crusade Against Frambesia in the East Indies

Dr. Winckel, public health officer in Java, spoke recently at The Hague on the crusade against tropical frambesia in the Dutch East Indies. During the period 1919-1924, more than a million injections were given, for which 500 Kg. of neo-arsphenamine was used. In some regions, the disease may be regarded as completely eradicated.

The Milk Question

Dr. Van Leersum has been carrying on a campaign through the daily press to obtain better milk service. There is an increasing demand on the part of the public for untreated milk. The only way to supply safe untreated milk is to secure good hygiene at the point of production and all along the line. The only efficient method would be to instruct the working personnel in the same manner that we instruct the personnel of an operating room. It is easy to develop such a project without appreciably adding to the cost. Professor Van Oven, in an article in the *Tijdschrift voor Diergeneeskunde,* gives an account of the organization created at Reading, England, where everything seems to be functioning satisfactorily.

Attempted Merger of the Health Insurance Societies

A movement was recently launched to bring about a merger of the health insurance societies of the Netherlands and to centralize their organizations and administrations. The movement proceeded so far that a commission was appointed to represent the principal existing societies. The physicians chosen to serve on the commission were members of the Nederlandsch Maatschappij tot Bevordering der Geneeskunst, and represented, respectively, the general practitioners and the medical specialists. There are at present an almost countless number of health insurance societies. Some organizations count their membership by the tens of thousands, while many smaller societies have only a few hundred members. Each society, however, must have a complete organization. An enormous waste of effort and money is thereby involved. To lessen the waste of energy it was proposed to substitute one immense organization for the present infinite number of small societies. At first sight, the project seemed acceptable; but by such a plan one society would have almost absolute power. This would constitute a grave danger for the medical profession, which consequently has become opposed to the project.

Smallpox, Alastrim and Vaccination

Under the chairmanship of Prof. Ricardo Jorge, an international commission composed of members of the health section of the League of Nations met recently at The Hague to study the questions of vaccination, smallpox and alastrim. The commission sent a questionnaire to all organizations that prepare smallpox vaccine, in order to learn the different methods employed in titration of the lymph, thus looking toward the adoption of a universal standardized method. The commission will also inquire into cases in which disorders of the central nervous system have followed vaccination. These cases, though very rare, in view of the immense number of vaccinations performed, are deserving of careful study. The commission has also appealed to the health section of the League of Nations in order that the cooperation of all the nations concerned may be secured.

The Press and Public Health Propaganda

Owing to the cooperation of all the public services and with the aid of certain private persons whom Dr. Josephus Jitta has interested in his plan, communications of the health council will be sent to all the journals and reviews that have consented to aid the new plan of disseminating information on health topics through the public press.

Tuberculosis Among Teachers

In the *Tijdschrift voor sociale Hygiene,* M. Putto has launched a campaign for medical supervision of members of instructional corps. The dangers to which pupils may be exposed by a tuberculous instructor would indicate that all instructors in schools should be required to submit to periodic physical examinations.

Care of Psychopathic Invalids

A committee has recently been formed, consisting of medical psychiatrists, for the purpose of studying the question of what constitutes proper training of nurses who are to care for psychopathic invalids. It will endeavor to determine what mode of instruction, what kind of education, and what qualities of character and disposition are best fitted for work of that kind. It will consider also the question as to what groups of psychopaths are in need of the care of such personnel. Also the organization, the enlistment and the salary schedule of the personnel will be discussed.

BUENOS AIRES

(From Our Regular Correspondent)

March 1, 1926.

Llama Syphilis Serum

In previous letters, reference has been made to the claims of Drs. Lancellotti and Jauregui as to the discovery of a curative serum for syphilis. The lay press exploited the matter and even announced it as a national achievement. Only a few weeks ago, pictures appeared in the newspapers of the 100 llama herd imported for the preparation of serum. The medical societies, however, could get no definite information on these studies. Drs. Lancellotti and Jauregui asked Dr. Chabroux to verify the effectiveness of their serum. Dr. Chabroux has now published in *La Semana Médica* his first report. Lancellotti and Jauregui stated that the serum from immunized llama rendered a negative Wassermann test. The serum placed in Chabroux' hands showed a positive test. Lancellotti and Jauregui claimed that they had secured splendid results within from six to twelve days in confluent patches and ulcerated papules, after previous treatments had failed. Chabroux did not see any improvement in such cases, but on the contrary, there were recurrences during treatment, even when using a dose three times as large as that originally advised. The Wassermann test did not become negative, and the action on mucous lesions proved short lived. After the serum had failed so signally, neo-arsphenamine made the lesions disappear and changed the Wassermann test to negative.

Medical Entomology

The recent and untimely death of Dr. Juana Petrocchi, already noted for her entomologic work, left vacant the position of chief of the entomologic division of the national department of health. Through the agency of the Rockefeller Foundation, Mr. William Shannon, an American, has been appointed to replace her. Dr. E. del Ponte will aid him in his studies of insects as disease vectors. Dr. del Ponte is at present engaged in a study of Chagas' theory that anopheles are really domestic insects, as the verification of this fact is important in prevention work.

Foreign Experts

The national department of health and the Clinical Surgery Institute (headed by Professor Arce), have engaged Prof. G. Fichera of Italy to take charge of pathologic work in both institutions.

The Rosario Medical School has also sent for Prof. G. Viale, a young man recently appointed at Sassari, to direct its well equipped physiologic laboratory. It seems strange to go abroad in order to fill such places, when there are two large institutions of this type in Buenos Aires, where a number of young men have been trained and have gained prominence. Many argue that a system of fellowships abroad is preferable to importing experts. The latter method has been tried here for many years, with results far from satisfactory.

The national department of health has also tendered the position of inspector of local laboratories to Prof. R. Kraus, the former director of the National Bacteriologic Institute.

Malaria

New antimalaria stations have been opened at San Lorenzo, Salta, and Tafí Viejo, Tucumán. Antimosquito work is being continued at Jujuy, Salta, Famaillá and Monteros, and is just being started at Aguilares, Tucumán. Dr. Amarante, the chief of the malaria division, has gone to Catamarca, to consider extending the work to that district. In addition to his studies of anopheles, Dr. del Ponte is studying the comparative value of several larvicides, including paris green.

Tuberculosis

The Argentine League Against Tuberculosis has opened a new sanatorium and dispensary at Rosario, whence a large region can be reached. The funds for the purchase of the building were a gift of Dr. Bartolomé Vassallo.

Externs

After a number of difficulties, hospital internships were discontinued about a year and a half ago. Now the Public Assistance has suggested that the Buenos Aires Medical School should take the responsibility of appointing the 291 "externs" who must serve in the hospitals.

Trachoma

For a number of years, ophthalmologists have pointed out the increasing number of foreigners with trachoma, especially Italians, Spaniards and Syrians, appearing at dispensaries. After a long neglect of prevention measures, all trachomatous immigrants are now refused admission, the steamship companies being required to repatriate all such cases. The disease has been controlled through a vigorous campaign in the capital. In addition to the hospital outpatient departments, the national health department has opened a special trachoma clinic in charge of Drs. A. Barbieri and E. de la Vega. The disease has spread in certain extensive zones in the provinces of Santiago del Estero, Tucumán and Jujuy; but an active campaign is already in progress.

Prizes

Through Dr. S. Dessy's efforts, a fund has been collected to institute a Guido Banti memorial prize in pathology. Awards will be limited to Argentine or Italian medical students.

The Argentine Biological Institute is offering an international prize, amounting to 1,000 pesos (about $400), for the best experimental work on bacteriology, biochemistry or endocrinology.

Postgraduate Studies

Dr. Valls has completed his postgraduate course in orthopedics at the Rizzoli Institute in Bologna. Dr. Dellepiane Rawson will now follow him.

After completing at Torino and Berlin the followships in physiology and physical chemistry granted by the Argentine Biological Institute and the Buenos Aires University, Dr. E. Hug has returned home.

Dr. R. Finochietto has left for Europe to inspect cripples' rehabilitation institutions.

Dr. Diez has also left to look into recent developments in nerve surgery.

Dr. Nierenstein has been granted a fellowship by the Buenos Aires University.

After spending some time in biochemical laboratories abroad, Dr. C. T. Rietti has returned to Argentina.

The Rockefeller Foundation has been requested to extend the fellowships granted to Drs. M. Balado (experimental surgery) and J. T. Lewis (physiology).

Medical Congresses

The fourth South American Conference on Hygiene, Microbiology and Pathology will be held at Buenos Aires, July 8-18. The committee in charge consists of Dr. G. Araoz Alfaro, president; Drs. D. J. Cranwell, A. Sordelli, M. V. Carbonell, F. A. Justo, A. Bachmann and B. A. Houssay, vice presidents, and Drs. A. Zwanck and S. Mazza, secretaries. The arrangements for the meeting on medical education have been placed in the hands of a committee composed of D. J. Cranwell, president; B. A. Houssay, P. Chutro, A. Lanari and J. Iribarne, vice presidents, and O. Loudet and V. A. Fiori, secretaries. Foreign committees have already been organized in Brazil, Chile, Paraguay, Peru and Uruguay.

In August, 1926, the first Argentine Surgical Congress will be held. The officers appointed are: D. J. Cranwell, president; L. M. Allende, E. Belaustegui, A. Ceballos and M. Ruiz Moreno, secretaries.

New Journals

The *Archivos Oftalmológicos de Buenos Aires* is already in its third issue. The editor is Dr. R. Argañaraz, assisted by Drs. H. Rebay, E. Adrogué, Lijó Pavía and thirty-six collaborators.

Prof. C. Bonorino, with a select group of collaborators, either clinicians, surgeons or radiologists, has started publication of *Archivos de Enfermedades del Aparato Digestivo y de la Nutrición.*

Dr. Molina's Death

February 16, Dr. S. Molina died. In addition to being the dean of the Argentine medical profession and a former director of the Rivadavia Hospital, he was also the real pioneer in modern obstetrics, and filled the first obstetric chair in Argentina.

BERLIN

(From Our Regular Correspondent)

March 20, 1926.

The Düsseldorf Exposition

The Düsseldorf exposition, which will open, May 8, will cover an area of 400,000 square meters and will deal with health culture, social welfare and physical education, thus fulfilling the same purpose as "Health Week" (THE JOURNAL, April 24, p. 1304). The exposition buildings, the more important of which will be permanent structures, will have a total area of 12,000 square meters. According to the announcements of Geheimrat Schlossmann (Dusseldorf), who is the director of the exposition, a more or less prominent part in preparing the proposed exhibits will be taken by the federal insurance institute for employees *(Reichsversicherungsanstalt)*, the leagues of the health insurance societies, the trade unions, the provincial insurance institutes, the ministry of federal defense, the institute of tropical hygiene (Hamburg), the Hygienic Museum of Dresden, the International Red Cross, the health commission of the League of Nations, the several states of the German federation, numerous large cities, the leagues of the welfare societies, and numerous care-taking centers. The comprehensive exhibit that will be grouped under the name "Home and Settlement" will give a survey of modern fire-fighting equipment, water systems, sewerage systems, building construction, gas and electric installation, heating and ventilation, food, condiments, beverages and clothing. In the exhibit "Sport and Physical Education," the visitor will find sport and gymnasium equipment of all kinds, from a large sailing yacht down to a football, a modern gymnasium, plans and models of modern athletic grounds, and, above all, a survey of aeronautics. In the preparation of the exhibit "Care and Treatment of the Sick," the universities, the Akademie für praktische Medizin and numerous special clinics have collaborated in the presentation of the results of their modern researches. The German spas and health resorts also have a special exhibit. Another exhibit that promises to be particularly interesting bears the designation "Man in His Hygienic Relations to Plants and Animals," which affords a survey of the science and technic of modern agriculture. Of the special buildings, those that are of interest are the physicians' building, the women's building, the Austrian building, and, finally, the Düsseldorf building, in which this city on the Rhine, justly famous for its art, its gardens and its industries, presents a miniature likeness of itself.

Causative Agents of Cancer

Professor van Calcar in the Netherlands and also Dr. Schumacher, microbiologist of Berlin, have recently reported discoveries of "new causative agents of cancer." In an article in the *Deutsche medizinische Wochenschrift*, Professor Blumenthal, director of the Berlin Institute for Cancer Research, refers with considerable skepticism to the alleged findings. I quote from his article as follows:

Van Calcar regards the protozoa that are found in oats, barley and other grains, worms, bugs and insects, as the causative agent of cancer. In previously moistened grain, which he exposes to the air and allows to dry, he enriches the protozoa and asserts that with such fluid, which, in addition to protozoa, contains also bacteria, he has produced cancer in dogs. He maintains further that these protozoa pass through an invisible stage, for which reason they are not seen, in spite of the fact that they are associated in symbiosis with the cancer cell. From human cancer tumors he cultivates the protozoa in the following manner: He allows decoctions of barley and oats prepared with sterilized water, into which he has deposited pieces of cancer tissue, to stand in nonsterile vessels. After twenty-four hours he removes the covers and leaves the vessels open until the contents have evaporated to dryness, whereupon water is added. In this fluid he finds fusiform, tremulous protozoa, which he designates as causative agents of cancer. This fluid but not isolated protozoa, was fed to, or injected into, dogs whose gastric secretion had been eliminated or in which burn blisters had been elicited. The gastric secretion was eliminated because, according to Calcar's view, achylia gastrica creates a disposition to cancer. It is alleged that nodules developed in the gastro-intestinal tract (or at the site of the injections) which were, for the most part, very small. In one instance, a larger tumor was found, which, to judge from the illustration, may possibly have been a true cancer. There is no reference to any attempts to discover whether or not the alleged tumors could be transplanted. Many things, especially the method, remind one of Feinberg's experiments many years ago. Calcar maintains that endeavors to produce tar cancer in mice fail utterly if the tar is applied to a region practically free from protozoa. Even if we assume that Calcar did succeed in producing cancer in dogs, it does not necessarily follow that the tremulous protozoa noted in the open fluid were the causative agent. It is equally likely that an invisible virus instituted the offensive. In any event, it cannot be admitted that Calcar's experiments justify his far-reaching conclusions.

As to Schumacher, he was unable to isolate his causative agent of cancer from the cancer tissue, for which reason he could not test it to ascertain whether or not it could produce tumors. The evidence adduced for the existence of the alleged causative agent is based solely on the facts that Schumacher was unable with the ordinary stains to demonstrate the presence of parasites but that when he used a certain method, as yet undivulged, but which included staining with Victoria blue, he demonstrated in the connective tissue at the margin of the cancer and at the dividing line between the diseased and the healthy tissues, with a magnification of 60, large S-shaped, wide, blue markings in such large numbers that they occupied a tenth of the marginal space about the cancer. He declares, without further investigation, that these formations constitute the causative agent. It is very doubtful whether the stained markings that Schumacher describes represent living organisms at all. It is quite possible that they are merely tissue components. A living organism of such size and existing in such great numbers ought to be visible in dark field illumination. Schumacher's communication does not, therefore, seem to me to furnish a basis for further discussion.

Society Proceedings

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Twentieth Annual Meeting, held at New York, March 30-April 1, 1926

Fracture Dislocation of the Neck

DR. ALFRED S. TAYLOR, New York: The number of fracture dislocations in the cervical spine seems to be increasing with each succeeding football season, and each summer also furnishes its toll of similar serious injuries from diving accidents. The bone lesion is usually of relatively minor importance. The seriousness of the injury depends entirely on the injury of the nerve tissues involved. The aim of treatment must be to restore the nerve structures to as near normal as possible. The first principle of treatment is not to manipulate the patient. The second principle is to restore proper anatomic relations of the various injured structures as far as possible. The third principle is to apply fixation apparatus which shall reach from the iliac crests upward to the chin and occiput, and which shall cause some elongation of the cervical spine as well as slight backward extension. The principle of the method I employ consists of controlled traction exerted on the head (with countertraction on the lower extremities) until the spasmodically contracted cervical muscles have relaxed sufficiently to permit reduction by bimanual manipulation on the part of the operator. Fixation is maintained by a plaster jacket encasing the trunk and neck. This jacket is kept on for three or four weeks; then a spinal brace with jury mast and cupped arrangement to fit and hold up the chin, jaw and occiput are used. Open operation in the acute stages of these injuries, because of the handling necessary to posturing the patient on the table and returning him to bed, involves great risk of added injury to the cord. The removing of the arches takes away a large part of the remaining stabilizing apparatus at the site of injury. In the old cases, in which it is impossible to get a good reposition, the only thing to do is to put on a fixation apparatus for a sufficient length of time so that the spine will become solidly ossified in its position of deformity.

DISCUSSION

DR. FOSTER KENNEDY, New York: I was associated with Dr. Taylor in two cases in which this method was used. Besides immediate result in the bone reduction, there was tremendous improvement in the cord symptoms.

DR. HENRY KELLER, New York: I have seen three cases which illustrate that one cannot tell by the symptoms the extent of the injury. Two were cases of complete fracture dislocation, one of the third, the other of the fourth cervical. One patient presented no symptoms at all. The only suspicious sign present was the fact that the child walked in with the head down, chin on the chest. The roentgen ray showed complete fracture dislocation of the third cervical. Hence, it is very important in every case of injury of the neck region to make a roentgen-ray examination.

Ventriculometry

DR. K. WINFIELD NEY, New York: The value of ventriculometry lies not only in definitely determining the increase in intracranial pressure, but also in accurately measuring the degree of this pressure. The normal intraventricular pressure is approximately the same as the pressure of the spinal fluid, namely about 8 mm. of mercury. Pressures have been recorded from 0 to 65 mm. of mercury. The lower pressures are mostly in the after-effects of cerebral vascular thromboses, and certain types of epilepsy and dementia praecox. Higher types are in encephalitis, 65 mm.; the so-called communicating type of hydrocephalus in adults, from 40 to 60 mm.; cerebral tumors and abscesses, from 25 to 35 mm., and congenital hydrocephalus, from 8 to 40 mm.; hydrocephalus due to posterior fossa tumors, from 15 to 30 mm.; chronic brain injuries showing post-traumatic neuroses, from 16 to 22 mm. Tapping the posterior horns of the lateral ventricle for pressure determination is a safe procedure with considerable less discomfort than spinal puncture.

Diagnosis and Localization of Brain Tumors

Dr. Walter E. Dandy, Baltimore: There are few, if any, tumors which should not be diagnosed and precisely localized by the use of air injections if other means fail. Air injections should be used only when the necessary information cannot be obtained from neurologic examination. They are also used to exclude tumors if there is a question of doubt as to the diagnosis. The method is not harmless. If it is not used correctly, it is one of the most dangerous tests employed for diagnosis. If it is used correctly, there is no danger. For the last six years we have not had a single death, and when judiciously used, there can be very few, if any, symptoms produced. If correctly used, it can make a localization of practically all brain tumors.

DISCUSSION

Dr. S. Philip Goodhart, New York: This method of localization of brain tumors offers the only opportunity for therapy in neurology. The merits of this diagnostic method are universally conceded. We are beginning to hear reports that are very favorable. Recently, Grant of Philadelphia presented an analysis of 400 cases in which he states that the diagnosis was practically made in 80 per cent by Dr. Dandy's method of localization, and in 30 per cent by that method alone. In that series of cases, 50 per cent of the patients were operated on successfully. This method is also a great help in that hitherto baffling situation in which the symptoms indicated tumor, there being a tremendous amount of intracranial pressure, and the operation revealed practically nothing. Many such cases are due to inflammatory processes.

Dr. Charles A. Elsberg, New York: While the technic of air injection is simple, the manipulation of the head after the air has been injected is not so simple. Sometimes the air will not pass from one lateral ventricle into the other as it should, if the side into which the air was injected is down, so that the air can rise through from the foramen of Monro into the other side. The method is not simple when it comes to obtaining good ventriculograms, or in their interpretation. Every once in a while it is difficult to say from the ventriculograms with real certainty exactly where the tumor lies, so that there are some patients in whom even ventriculograms will not lead to a positive localizing diagnosis. In such cases, repeated injections of air may be necessary with pictures taken in various positions, study of the ventricles by injections of dye into one or both of them, etc. One must not arrive at the conclusion that with this method of diagnosis all infiltrating tumors can be removed. By no means. While the method does help and is extremely valuable, it has not yet solved for us all the problems of infiltrating tumors of the brain. Ventriculography has been a tremendous step in advance; I am becoming more and more enthusiastic as to its use, but the ideal has not yet been reached. The ideal will be attained when an absorbable fluid impervious to the roentgen ray, and not toxic, will be discovered which can be injected into the ventricles; with one stereoscopic roentgenogram we shall then obtain all the information needed, and we shall not be obliged to have roentgenograms taken in various positions, and shall not have to depend on the passage of air from one ventricle into the other.

Dr. Israel Strauss, New York: The neurologist can probably localize about 70 per cent of the neoplasms of the brain. Without this method he would be at a loss. With it, properly applied, his diagnosis in localization ought to be absolute. This method cannot be utilized by an assistant injecting air into the ventricle, and another assistant taking the patient to the roentgen-ray department and then the radiologist attempting to interpret the results. It is a one-man method. It requires the attention of the surgeon in every phase, and that is where the difficulty has arisen. It means a great deal of experience in the interpretation of what one finds, and a great knowledge of anatomy and pathology. Dr. Ney's work is of a great deal of importance, for the reason that, with the determination of the ventricular pressure, it becomes unnecessary to resort to the injection of air. The information obtained by recording the size of the ventricles may be sufficient in conjunction with the neurologic signs to make a diagnosis and a localization.

Dr. K. Winfield Ney, New York: There can be no question regarding the value of ventriculography in the localization of brain tumors, but the technic must be mastered and followed.

Dr. Walter E. Dandy, Baltimore: I think I have probably given the wrong impression about the number of cases in which air has actually been used. Three or four years ago we published a method called "ventricular estimation" from which we could get practically the same results as from actually seeing the ventricles thrown on a photographic plate. In many cases, ventricular estimation has been used instead of the actual injection of air. Localizations and diagnoses so made are included in the estimate of one third of brain tumors requiring air injections.

Cholecystography by the Oral Method

Dr. William H. Stewart, New York: For cholecystography by the oral method we are using tetraiodophthalein obtained in sealed colored ampules, a single dose in each, which has overcome the deterioration question. The method is simple and efficient. Some authors have claimed there is more reaction following the oral than the intravenous injection, but this has not been our experience. We have either had no reaction, or a slight nausea or one or two loose movements. When a reaction occurs, it does not incapacitate the patient. We do not admit that the oral method is less valuable than the intravenous. We take exception to the statement that the oral method should be checked with the intravenous. The examination is not simple. It requires a patient who is intelligent enough to suspend respiration during the making of the films. One of the most important phases of the Graham test is in the deduction of a disturbance of the function of the gallbladder. One important use of the method of visualization of the gallbladder is the differential diagnosis between nephrolithiasis and cholelithiasis. It is much simpler to carry out the gallbladder technic than to outline the kidney pelvis and calices by pyelography.

DISCUSSION

Dr. Lester Levyn, Buffalo: Many roentgenologists have abandoned the intravenous method because it is generally followed by varying degrees of reaction. Technical difficulties are frequently encountered. The danger of injuries to the peripheral vessels is a serious one. Bacterial contamination is possible, and certainly it is not to be recommended as an office procedure. Hanzlik has shown definite changes in the physical characteristics of the blood as the result of various types of intravenous medication. These reactions are not encountered when the dye is administered by mouth. Slight nausea or occasional vomiting may occur, but never a severe reaction. If comparable results may be achieved by the oral method, why subject patients to the discomforts and dangers of intravenous injections, except in occasional cases in which visualization is not obtained after at least two oral attempts have been made? In the majority of cases, practically 80 per cent, the oral method is successful. Our percentage of visualization with keratin coated capsules has not been as high as Dr. Stewart's. We give the dye in a number 0 capsule inserted in a number 3 capsule which contains sufficient sodium bicarbonate to cover completely the dye contained capsule. In this manner we have found that the greatest amount of protection against the acid gastric juice is obtained and more soluble dye is available for absorption than by any other product. The accurate interpretation of cholecystography will be arrived at only by collaboration between clinician and roentgenologist.

Dr. Merrill C. Sosman, Boston: We have a record of 400 cases studied by the oral and 200 by the intravenous method. The obvious difference in the two methods is this: In the oral method an unknown amount of the dye is absorbed, while in the intravenous method a known quantity of salt is put into the blood which must come through the liver to the gallbladder. We have found the intravenous method much more accurate than the oral method. With the intravenous method we have had 93 per cent of cases proved by the surgeon and the pathologic report, as against 80 per cent with the oral method. Of 113 cases in which operation was done, the diagnosis was confirmed in 105. As a further check on the oral method, fifty-six patients who showed no shadow by this examination were subsequently given the intravenous test. In only forty-one of them were the findings confirmed, an accuracy of 73 per cent. Likewise, in forty-three medical students, oral examination gave normal shadows in only thirty-three, and faint shadows in the remaining ten. We use the oral method in ambulatory cases and accept the results showing normal shadows or stones. The others we confirm or disprove by the intravenous method.

Dr. Israel O. Palefski, New York: Dr. Stewart, I fear, places too much dependence on the results of the oral method. Employing the same method of preparation of the dye capsules and observing the same precautions as he does, I found a large group of patients in whom the dye failed to reach the liver and the gallbladder in sufficient quantities to permit accurate clinical deductions. The oral method often failed us in the crucial cases. Its present vogue is undoubtedly based more on its simplicity of application than on its accuracy. Conclusions based on this method should be stated reservedly. On the other hand, I see no objection to the intravenous method, if performed properly. It is unfortunate that the unpleasant consequences that followed the intravenous tetrabromphenolphthalein procedure should be unduly attributed by some observers to tetraiodophenolphthalein without giving it sufficient trial. The general reaction, if any, is certainly less than after the oral method. As a rule, there is no reaction after a dose of from 2 or 2.5 Gm. of tetraiodophenolphthalein dissolved as a 5 per cent solution in distilled water and introduced by means of a 50 cc. finger holed syringe. The intravenous method is not only labor saving, as it usually requires one examination, but is accurate in determining the patency or nonpatency of the cystic duct, the main feature of importance in cholecystography.

Dr. Louis Lefrak, New York: It is my opinion that Graham and his associates have put before us a Pandora's box of troubles. The technical difficulties, great as their number are, will probably be shortly overcome, but the interpretation of the gallbladder shadows will tax the patience of all of us. The normal gallbladder will have to be discovered before we can describe the pathologic organ in all its ramifications.

Dr. William H. Stewart, New York: We concede that the oral method is not more accurate than the intravenous method, but we believe we can get the same information by the administration of the dye by mouth as by the intravenous injection. We have given up the intravenous method. It has been very discouraging. The first thing is the severity of the reaction; in some instances we almost lost the patient. Another ill effect is a very severe sloughing from a drop of the solution getting into the soft tissue; this occurred more than once. Another thing that may happen is phlebitis.

Muscle and Nerve Injuries Associated with Fractures

Dr. Dean Lewis, Baltimore: Nerve and muscle injuries associated with fractures are relatively rare, but they so prolong the disability that they demand early recognition and intelligent therapy. In 80 per cent of the nerve injuries, the humerus is the bone that is fractured, the common site of the fracture being in the lower third of the bone (60 per cent). Of the peripheral nerves involved, the musculospiral accounts for 60 per cent and the ulnar nerve for about 25 per cent. Many of the latter, however, are late paralyses. Next in order of frequency are injuries of the median nerves associated with anterior displacement of the lower end of the upper fragment of the humerus, and dislocation with displacement forward of the carpal bones. Isolated injuries of different nerves are observed, but the musculospiral, ulnar and median are the nerves most frequently injured. Injuries of the musculospiral nerve with fractures of the surgical neck are uncommon. The nerve is well protected at this point. Injuries of the musculospiral are most common with fractures of the middle of the shaft and supracondylar fractures in which the upper end of the lower fragment is displaced outward. In the spiral fracture through the middle of the shaft, the upper end of the lower fragment is frequently displaced outward and the musculospiral nerve is first contused and then stretched over the fragment. In some of the fractures through the lower third of the humerus, the musculospiral nerve seems to be torn at its most fixed point, just above the origin of the deep branch. This type of injury is uncommon; but when an injury of the nerve is not found at the site of the fracture, it is well to explore the nerve in the antecubital fossa. Ulnar nerve injuries may be associated with fractures of the internal epicondyle and condyle and supracondylar fractures. The most interesting ulnar injuries are those in which the symptoms develop late. A history is given of injury of the elbow in childhood followed by good recovery of function. Later, varying from ten to thirty or forty years, definite symptoms of ulnar nerve palsy develop. This late ulnar palsy is most frequently associated with a cubitus valgus due to an ununited fracture of the external condyle. The deformity, a prominent internal condyle, with a cubitus valgus and impaired extension, should suggest at once a late ulnar palsy. Many have been diagnosed cervical rib, syringomyelia, etc. Injuries of the median nerve are frequently overlooked, for the disability following median nerve injuries is slight, consisting of the inability to flex the index finger, to use the opponents and flexor longus pollicis.

Ischemic myositis (Volkmann's contracture) is one of the most disabling lesions associated with fractures. It is observed most frequently after supracondylar fractures and fractures of the lower end of the femur. It is caused by venous congestion. About 18 per cent of the cases of ischemic palsy occur without a cast or constricting dressing having been applied. The importance of the subfascial hematoma in the production of ischemic palsy has not been fully appreciated. In cases with marked swelling and induration of the antecubital fossa, no attempt at reduction should be made—no dressing applied. The internal pressure due to the hematoma should be released. Incision of the fascia with evacuation of the clot is advisable. The mild cases may be cured or greatly improved by elastic traction and massage; but if the greater part of the contractile substance has been destroyed, operation is of little avail, for lengthening of tendons or muscles is of no avail if the contractile substance has been destroyed. A fracture should not be considered merely as a fracture, but a careful examination should be made for associated injuries of nerves, muscles and blood vessels.

DISCUSSION

Dr. William Darrach, New York: I should like to emphasize what Dr. Lewis has said about the possible cause for ischemic paralysis; that is, what we have been calling a pressure from within as distinguishd from pressure from without. A number of cases are on record in which this condition has developed without any constricting pressure from bandage or acute flexion, which can be explained only by some internal cause. In the study of nerve injuries complicating fractures, the most important thing is to emphasize the wisdom of establishing at the first examination the question as to whether the nerve has been injured or not. I know of no more embarrassing situation than to find after the third or fourth examination that a nerve injury exists, and to be uncertain whether the nerve injury was due to the fracture or to attempts at reduction of the fracture. It is surprising how quickly a return of function will sometimes occur in a nerve that looks to be severely injured at the time of operation. The association of nerve injuries with carpal injuries is of importance. Another point is in regard to the late manifestations of ulnar nerve injuries with elbow fractures. That is an illustration of how unreliable the statistics of any one person are. Dr. Lewis stated that he thought ulnar nerve lesions were common because he had seen fifteen of them. I have only seen one. Because one man is especially good at treating these conditions, he gets all the cases, and thinks that their occurrence is more common than it really is. They are tremendously important, but I do not believe that they are very frequent,

Dr. Emil Goetsch, New York: Our commonest nerve lesion with fracture and dislocation has been the median nerve injury due to dislocation of the scaphoid. Another type that has not been mentioned is injury to the circumflex nerve after an impacted fracture of the neck of the humerus. We had one case of musculospiral palsy due to fracture of the shaft of the humerus near its middle and one of musculospiral palsy from a supracondylar fracture of the humerus. In one case the median nerve was involved in the forearm after callus formation following a compound fracture of both bones of the forearm. This occurred three months after the injury. There was one case of brachial plexus palsy in a young boy who was hanging to a strap in a street car, lost his grip and seized his neighbor, hanging on to his shoulder, in this way overstretching his arm. Five roots of the brachial plexus were divided just outside the intervertebral foramen. We had four more, two of the external popliteal, injured at the time of a fibular fracture, two of direct injury at the point of the head of the fibula after dislocation of the knee. The great necessity of immediate examination for nerve injuries cannot be overstressed.

Dr. Alfred S. Taylor, New York: I have had five cases of late ulnar nerve palsies. In each case there happened to be either a transverse supracondylar fracture or a fracture of the internal condyle. I have not seen this associated with the external condylar fractures. In these cases the mechanism of the damage to the ulnar is the same; namely, a distortion of the internal condyle which increased the backward projection of it, which causes stretching and therefore continuous irritation of the ulnar nerve.

Dr. Richard Kovacs, New York: At the Reconstruction Hospital we have seen upward of eighty cases of nerve injuries associated with traumatism. From the standpoint of diagnosis, while the clinical examination alone will in some cases be sufficient to settle the question, the method of electrodiagnosis will greatly assist in the complicated cases. The rule still holds that in any nerve injury the corresponding muscle ceases to respond to the impulse of the faradic current in four days, while after ten days galvanism elicits only a sluggish response. In any hospital with a physical therapy department, the test can be carried out satisfactorily. With the modern methods of condenser testing, response to electrical stimulation can be accurately measured and chartered. When it comes to the question of therapy, physical therapy aids only as an adjuvant; but it will help to maintain the condition of the paralyzed or weakened muscle, so that when the nerve regenerates or its physiologic function returns, instead of degenerated muscle fibers we find those which have kept their main function, that of contraction. The rational and systematic application of physical measures offers considerable help to the surgeon and the orthopedic man.

Dr. Byron Stookey, New York: Dr. Lewis called attention to a very important point—that no examination of a fracture is complete unless examined for a possible nerve injury. I should like to ask why Dr. Lewis would wait for three months before exploring. In a dislocation I have never seen a complete anatomic interruption of the nerves. It is usually a traumatism from which the patient will recover. If the roentgenogram shows a comminuted fracture with sharp points, and the history is obtained of an immediate paralysis, I think it would be wiser to cut down on the nerve and determine its condition, because whether by electrical reactions or otherwise, I know of no signs that will help one to determine whether it is interrupted anatomically. I can see no advantage in waiting three months, as Dr. Lewis suggested.

Dr. Dean Lewis, Baltimore: I quite agree that it is impossible to differentiate between anatomic division of a nerve and the physiologic interruption of conduction. Even the most skilled neurologist is often unable to do this. If a neuroma can be palpated, it is distinct evidence of division or at least a nerve block which requires surgical intervention. I do not employ physiotherapy but use a splint with an elastic attachment, so that each time the part is used it is brought back to a neutral or an overcorrected position. As for waiting three months before operation unless there are indications for immediate intervention, I believe that this gives time for at least the beginning of recovery.

(To be continued)

Marriages

Hamilton Chesley Perkins, Boston, to Miss Caroline Ellsworth Bent of North Sudbury, Mass., in January.

Gerald A. Ezekiel, Richmond, Va., to Miss Julia-May Sommers of Washington, D. C., February 22.

Julius A. Johnson, Omaha, to Miss Ruth Carlson of Chicago, April 24.

Deaths

Albert Brown Lyons ⊕ Detroit; University of Michigan Medical School, Ann Arbor, 1858; professor of chemistry, Detroit Medical College, 1868-1880; consulting chemist for Parke, Davis and Company, 1881-1886; member of the committee of revision of the United States Pharmacopeia from 1900-1920; one of the founders and first editor of the *Pharmaceutical Era*, author of "Plant Names, Scientific and Popular" and "Standardization by Chemical Assay of Organic Drugs" and other works; aged 84; died, April 3.

John Mason Little, Jr. ⊕ Boston; Medical School of Harvard University, Boston, 1901; for two years instructor in minor surgery at his alma mater; for several years connected with the Grenfell Missions in Labrador; at one time on the staff of the Massachusetts General Hospital; aged 50; died, March 24.

Constantine Francis McGuire, New York; Bellevue Hospital Medical College, New York, 1882; member of the Medical Society of the State of New York; on the staff of the Central Neurological Hospital; aged 71; died, April 15, of heart disease.

Rodney D. Ramey, Garden City, Mo.; Missouri Medical College, St. Louis, 1883; member of the Missouri State Medical Association; past president of the Cass County Medical Society; aged 70; died, April 6, of heart disease.

Zenas Lockwood Leonard ⊕ Pittsfield, Mass.; Medical Department of the University of the City of New York, 1880, aged 68; died, April 4, at St. Bartholomew's Hospital, of carcinoma of the sigmoid flexure of the colon.

Frederick King Shaw ⊕ Concord, Mass.; Medical School of Harvard University, Boston, 1902; chairman of the board of health; served during the World War; on the staff of the Emerson Hospital; aged 55; died, April 5.

James Michael Collity, Manchester, N. H.; Bellevue Hospital Medical College, New York, 1879; member of the New Hampshire Medical Society; for many years city physician; aged 71; died, March 27, of pneumonia.

Joseph Albert Pettus, Athens, Ala.; University of Nashville Medical Department, 1868; member of the Medical Association of the State of Alabama; Civil War veteran; aged 80, died, April 6, of organic heart disease.

Alfred E. Fretz ⊕ Sellersville, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1896; on the staff of the Grand View Hospital; aged 51; died, March 30, at the University Hospital, Philadelphia.

Morgan J. Williams, Scranton, Pa.; Medical Department of the University of the City of New York, 1881; member of the Medical Society of the State of Pennsylvania; aged 76; died, in March, of heart disease.

Prescott Tallman Mitchell, Cincinnati; University of Cincinnati College of Medicine, 1923; member of the Ohio State Medical Association; served during the World War; aged 31; died, April 1, of pneumonia.

George Burley Martin, Asheville, N. C.; Medical College of Virginia, Richmond, 1910; member of the Medical Society of Virginia; served during the World War; aged 43; died, April 11, at a hospital in Oteen.

James Benjamin Padgett, Ruffin, S. C.; Baltimore University School of Medicine, 1887; aged 61; died, March 23, at the Charles Es'Dorn Hospital, Walterboro, of chronic nephritis and heart disease.

Alexander Grier Appleby, Valley City, Ohio; College of Physicians and Surgeons, Baltimore, 1895; member of the Ohio State Medical Association; aged 52; died, April 4, of cerebral hemorrhage.

⊕ Indicates "Fellow" of the American Medical Association.

William Hill Bean ⊕ New Haven, Conn.; Yale University School of Medicine, New Haven, 1903; formerly instructor in therapeutics at his alma mater; aged 59; died, Dec. 1, 1925, of angina pectoris.

William Franklin Baugh, Conway, Ark.; University of Arkansas Medical Department, Little Rock, 1885; member of the Arkansas Medical Society; aged 71; died, March 4, of angina pectoris.

Henry M. Collison, Sterling, Colo.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1901; member of the Colorado State Medical Society; aged 51; died, February 26.

Edmund Henry Mitchell, Bakersfield, Mo.; Jefferson Medical College of Philadelphia, 1879; member of the Missouri State Medical Society; aged 68; died, March 30, of heart disease.

Ephraim Waldo Love, Fayetteville, Ohio; Rush Medical College, Chicago, 1881; member of the Ohio State Medical Association; aged 68; died, March 23, of carcinoma of the liver.

Joseph Roa Grant, Auburn, N. Y.; Cornell University Medical College, New York, 1904; served during the World War; aged 51; died, March 26, of pneumonia, following influenza.

Walter K. Smith, *Adairville, Ky.; University of Louisville* School of Medicine, 1884; member of the Kentucky State Medical Association; aged 64; died, April 2, at Lakeland, Fla.

Francis Joel Canedy ⊕ Shelburne Falls, Mass.; University of Michigan Medical School, Ann Arbor, 1870; formerly bank president; aged 79; died, March 30, of pernicious anemia.

John Daniel Walthall, Paola, Kan.; University of Michigan Medical School, Ann Arbor, 1883; aged 66; was killed, March 22, near Osawatomie, in an automobile accident.

David O. Hudson, Montgomery City, Mo.; Missouri Medical College, St. Louis, 1879; formerly county coroner; aged 69; died, March 12, at Columbia, of heart disease.

Harlan Edward Linehan, Brooklyn; Baltimore Medical College, 1907; member of the Medical Society of the State of New York; aged 42; died, March 9, of myocarditis.

Harry Houghton Drake, Johnstown, N. Y.; Albany Medical College, 1909; member of the Medical Society of the State of New York; aged 49; died, April 2, of angina pectoris.

James David McGlamery, Birmingham, Ala.; University of Georgia Medical Department, Augusta, 1924; aged 28; died, March 2, at St. Vincent's Hospital, of pneumonia.

Hector Daniel McKenzie, Oakland, Calif.; Oakland College of Medicine and Surgery, 1918; member of the California Medical Association; aged 35; died, February 18.

Thomas Urquhart Joyce, Brooklyn; Long Island College Hospital, Brooklyn, 1881; member of the Medical Society of the State of New York; aged 78; died, April 1.

Charles Frederick Klippert, New York; Medical Department of the University of the City of New York, 1880; aged 67; died, April 7, following a long illness.

William Kurtz Mathis ⊕ Chanute, Kan.; University Medical College of Kansas City, Mo., 1903; on the staff of the Johnson Hospital; aged 45; died, March 9, of nephritis.

John Albert Burtch, Coffey, Mo.; College of Physicians and Surgeons, Keokuk, 1895; aged 54; died, March 9, at the Noyes Hospital, St. Joseph, of diabetes mellitus.

William James Dunn, Camden, S. C.; Louisville (Ky.) Medical College, 1888; member of the South Carolina Medical Association; aged 62; died, March 12.

George Allan Rowe, Buffalo; Eclectic Medical Institute, Cincinnati, 1879; aged 71; died, April 4, of chronic myocarditis and chronic interstitial nephritis.

Morris S. Cohen, Fitzgerald, Ga.; Jefferson Medical College of Philadelphia, 1881; aged 60; died, February 19, at Cleveland, Ohio, of cerebral hemorrhage.

Daniel Driscoll ⊕ Portland, Maine; Medical School of Maine, Portland, 1885; aged 65; died suddenly, March 29, at Jacksonville, Fla., of angina pectoris.

Edwin G. Proctor, Kane, Ill.; College of Physicians and Surgeons, Baltimore, 1882; member of the Illinois State Medical Society; aged 70; died, April 3.

Rudolph Albert Berneike, Cleveland; Long Island College Hospital, Brooklyn, 1886; aged 68; died, March 26, at the City Hospital, of bronchopneumonia.

Olney Galen Place ⊕ Boulder, Colo.; University of Michigan Medical School, Ann Arbor, 1885; aged 65; died, March 18, of cerebral hemorrhage.

John W. Buxton, Howard, Ohio; Starling Medical College, Columbus, 1883; aged 67; died, March 18, at the Grant Hospital, Columbus, of cholelithiasis.

Peter Eugene M. Goetz, Chicago; Western Reserve University School of Medicine, Cleveland, 1885; aged 62; died, March 28, of chronic myocarditis.

George Washington Baughman, Mansfield, Ohio (licensed, Ohio, 1899); formerly county coroner; aged 72; died, March 30, of bronchopneumonia.

William Mitchell Love ⊕ Chester, S. C.; Medical College of the State of South Carolina, Charleston, 1881; aged 66; died, March 26, of heart disease.

Abdul M. Templeton, Canton, Ohio; Starling Medical College, Columbus, 1889; aged 67; died, March 14, of pulmonary edema and chronic nephritis.

Nathaniel L. MacBride, New York; Hahnemann Medical College and Hospital, Chicago, 1878; aged 71; died suddenly, March 26, of heart disease.

William V. Norris, Corydon, Ky.; Kentucky School of Medicine, Louisville, 1866; aged 82; died, March 17, of influenza and pneumonia.

Francis R. Woodard ⊕ Minneapolis; Rush Medical College, Chicago, 1879; aged 77; died, March 29, at St. Augustine, Fla., of cerebral hemorrhage.

Albert Benton Peck, Knoxville, Tenn.; Vanderbilt University Medical Department, Nashville, 1899; aged 54; died, April 2, of pneumonia.

Virgil Newton Seawell, Faison, N. C.; Washington University School of Medicine, Baltimore, 1868; Civil War veteran; aged 86; died, April 1.

James H. Lathrop, Toledo, Ohio; Toledo Medical College, 1889; aged 69; died, March 28, at the Eastside Hospital, of cerebral hemorrhage.

Fred Anthony Hadley ⊕ Walden, N. Y.; College of Physicians and Surgeons, Baltimore, 1895; aged 63; died, March 23, of heart disease.

Rush Neer ⊕ Paterson, N. J.; Long Island College Hospital, Brooklyn, 1880; aged 76; died, March 19, of carcinoma of the rectum.

Jerry A. Leeman, Pecos, Texas; Kentucky School of Medicine, Louisville, 1876; Civil War veteran; aged 84; died, March 21.

Joe M. Owens, Cross Hill, S. C.; Medical College of the State of South Carolina, Charleston, 1896; aged 54; died, March 22.

Albert E. Norton, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1884; aged 66; died, March 26.

Daniel A. Pelton, Forrest City, Ark.; Barnes Medical College, St. Louis, 1897; aged 60; died, March 29, of angina pectoris.

Charles Franklin Ely, Chicago; New York Homeopathic Medical College, 1876; aged 70; died, April 15, of heart disease.

Lewis L. Baker, Shenandoah, Iowa; Northwestern Medical College, St. Joseph, 1892; aged 70; died, March 26, of heart disease.

Nicholas Green Matthews, Owensville, Mo. (licensed, Missouri, 1884); Civil War veteran; aged 85; died, February 26.

William J. Walker ⊕ Bryan, Ohio; Toledo Medical College, 1898; aged 56; died, March 30, of cerebral hemorrhage.

James Tidwell Raines, Malesus, Tenn.; University of Nashville Medical Department, 1874; aged 66; died, March 28.

Clyde P. Kennedy, Decatur, Ill.; Medical College of Ohio, Cincinnati, 1880; aged 69; died, April 7, of heart disease.

Frank H. Dunlap ⊕ Brawley, Calif.; Kansas City Homeopathic Medical College, 1894; aged 54; died, February 16.

John A. McCrea, Tifton, Ga.; Georgia College of Eclectic Medicine and Surgery, 1885; aged 76; died, March 24.

Irvin R. Mohney ⊕ Brookville, Pa.; Jefferson Medical College of Philadelphia, 1905; aged 51; died, February 11.

Charles Ward Copeland, Fall River, Mass.; University of Giessen, Germany, 1877; aged 73; died, March 30.

John S. Lytle, Dunkirk, Ind.; University of Edinburgh, Scotland, 1880; aged 66; died, March 28.

Emory P. Bryan, Conyers, Ga.; Atlanta Medical College, 1897; aged 57; died, March 23.

Thomas A. Ross, Arkadelphia, Ark. (licensed, Arkansas, 1907); died recently.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

STEERE'S ELIXIR ASPIRIN COMPOUND, STEERE'S ELIXIR AMMONIUM SALICYLATE, NELSON ELIXIR OVARANS, AND ELIXIR DIGITALIN COMPOUND NOT ACCEPTABLE FOR N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. PUCKNER, Secretary.

Steere's Elixir Aspirin Compound, "prepared and guaranteed" by American Laboratories Incorporated, is claimed to contain in each teaspoonful, "Aspirin 2½ Gr., Caffeine Citrated ½ Gr., Rhubarb 1 Gr." and 50 per cent of alcohol. Solutions of acetylsalicylic acid are known to be unstable. The A. M. A. Chemical Laboratory reports that the preparation contains large quantities of salicylic acid, showing that the "aspirin" said to be present was almost entirely decomposed. The liquid possesses an aromatic "bouquet" with a decided odor of ethyl acetate and ignites readily (*alcohol*).

Steere's Elixir Aspirin Compound is unacceptable for New and Nonofficial Remedies because it does not have the composition claimed; because the name is not descriptive of its composition; and because it is irrational to administer a mixture containing acetylsalicylic acid, or its decomposition products, alcohol, caffeine and rhubarb in fixed proportions.

Steere's Elixir Ammonium Salicylate, "prepared and guaranteed" by American Laboratories Incorporated, is marketed with the claim that each teaspoonful represents "Ammonium Salicylate 2½ Grs., Caffeine Alkaloid ¼ Gr., Rhubarb 1 Gr." According to the label it is:

> "Especially serviceable in restoring the Alkaline Reserve where an Acidosis exists as in Broncho-Pneumonia, Influenza, Rheumatism, Colds, &c. . . ."

Steere's Elixir Ammonium Salicylate is unacceptable for New and Nonofficial Remedies because the name is misleading in that it does not correctly declare the potent ingredients; because the recommendations for its use are unwarranted and their inclusion on the label may lead to its indiscriminate use by the laity; and because the routine administration of a mixture of a salicylate, caffeine and rhubarb in fixed proportions is not in the interest of rational therapy.

Nelson Elixir Ovarans, "prepared and guaranteed" by American Laboratories Incorporated, is stated to be "A Pleasant and Palatable Preparation of Viburnum Prunifolium, in Combination with Symplocarpus Foet., Cinnamon, &c., with Aromatics" but no statement of the amount of viburnum prunifolium (black haw) and symplocarpus foetidus (skunk cabbage) is given. According to the label, this preparation of obsolete drugs is thus described:

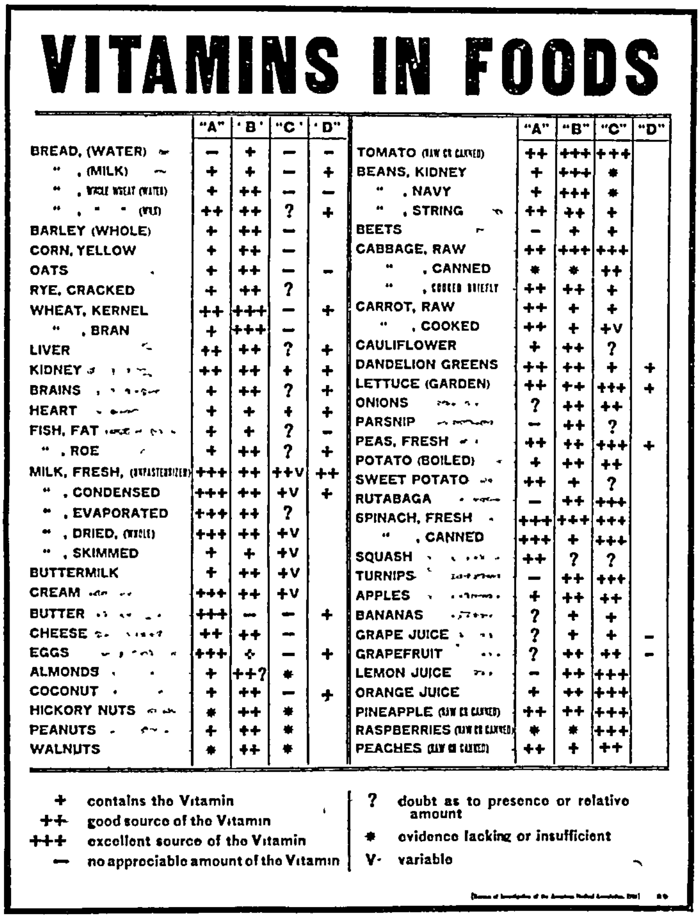
> "Uterine Tonic and Sedative. Exceedingly valuable in Dysmenorrhoea, Spasms, Flatulency, Convulsions, Cramps, Hysteria, Cholera and Amenorrhoe, &c."

Perhaps in appreciation of the ineffectiveness of the mixture, the label contains the suggestion: "Can be advantageously combined with Bromides, Codea, Morphia, Chloral, &c."

Nelson Elixir Ovarans is unacceptable for New and Nonofficial Remedies because it is a mixture of indefinite composition sold under a noninforming name and with claims that are unwarranted and likely to lead to its ill-advised use by the public.

Elixir Digitalin Compound, "prepared and guaranteed" by American Laboratories Incorporated, is stated to contain 22.5 per cent of alcohol by volume and it is claimed that "Each Fluidrachm Contains:—Digitalin, 1-100 gr.; Nitroglycerin, 1-100 gr.; Strychnine Sulphate, 1-50 gr." No information is contained on the label or in the circular letter sent to physicians in regard to the form of "digitalin" contained in the preparation nor is there any assurance (other than the statement that the preparation is "prepared and guaranteed" by the firm), to show that the unstable nitroglycerin is present in the product that reaches the patient in the amount claimed on the label. Tests carried out in the A. M. A. Chemical Laboratory showed that the specimen sent to the Council was practically devoid of this potent ingredient. This mixture is:

> "Recommended in fevers or low condition of the system from any cause. Especially indicated in Collapse requiring immediate stimulants after shock or surgical operation "



VITAMINS IN FOODS

	"A"	"B"	"C"	"D"
BREAD, (WATER)	—	+	—	—
" , (MILK)	+	+	—	+
" , WHOLE WHEAT (WATER)	+	++	—	—
" , " " (MILK)	++	++	?	+
BARLEY (WHOLE)	+	++	—	
CORN, YELLOW	+	++	—	
OATS	+	++	—	—
RYE, CRACKED	+	++	?	
WHEAT, KERNEL	++	+++	—	+
" , BRAN	+	+++	—	
LIVER	++	++	?	+
KIDNEY	++	++	+	+
BRAINS	+	++	?	+
HEART	+	+	+	+
FISH, FAT	+	+	?	—
" , ROE	+	++	?	+
MILK, FRESH, (UNPASTEURIZED)	+++	++	++V	++
" , CONDENSED	+++	++	+V	+
" , EVAPORATED	+++	++	?	
" , DRIED, (WHOLE)	+++	++	+V	
" , SKIMMED	+	+	+V	
BUTTERMILK	+	++	+V	
CREAM	+++	++	+V	
BUTTER	+++	—	—	+
CHEESE	++	++	—	
EGGS	+++	+	—	+
ALMONDS	+	++?	*	
COCONUT	+	++	—	+
HICKORY NUTS	*	++	*	
PEANUTS	+	++	*	
WALNUTS	*	++	*	

	"A"	"B"	"C"	"D"
TOMATO (RAW OR CANNED)	++	+++	+++	
BEANS, KIDNEY	+	+++	*	
" , NAVY	+	+++	*	
" , STRING	++	++	+	
BEETS	—	+	+	
CABBAGE, RAW	++	+++	+++	
" , CANNED	*	*	++	
" , COOKED BRIEFLY	++	++	+	
CARROT, RAW	++	+	+	
" , COOKED	++	+	+V	
CAULIFLOWER	+	++	?	
DANDELION GREENS	++	++	+	+
LETTUCE (GARDEN)	++	++	+++	+
ONIONS	?	++	++	
PARSNIP	—	++	?	
PEAS, FRESH	++	++	+++	+
POTATO (BOILED)	+	++	++	
SWEET POTATO	++	+	?	
RUTABAGA	—	++	+++	
SPINACH, FRESH	+++	+++	+++	
" , CANNED	+++	+	+++	
SQUASH	++	?	?	
TURNIPS	—	++	+++	
APPLES	+	++	++	
BANANAS	?	+	+	
GRAPE JUICE	?	+	+	—
GRAPEFRUIT	?	++	++	—
LEMON JUICE	—	++	+++	
ORANGE JUICE	+	++	+++	
PINEAPPLE (RAW OR CANNED)	++	++	+++	
RASPBERRIES (RAW OR CANNED)	*	*	+++	
PEACHES (RAW OR CANNED)	++	+	++	

+ contains the Vitamin
++ good source of the Vitamin
+++ excellent source of the Vitamin
— no appreciable amount of the Vitamin
? doubt as to presence or relative amount
* evidence lacking or insufficient
V· variable

A miniature reproduction of a new poster just issued. This is one of forty educational posters prepared and issued by the Bureau of Investigation of the American Medical Association. The original posters are 22 inches by 28 inches, and sell for twenty cents each.

The word "Digitalin" has been applied to many different substances, and it is almost meaningless unless qualified, *e. g.,* "German" Digitalin, "French" Digitalin, or True Digitalin. The name should be applied only to the last mentioned, of which we do not know the dose, because it is absorbed poorly from the gastro-intestinal tract. Certainly, doses of 1/400 of a grain repeated several times a day are not sufficient to induce the typical effects of digitalis, and Eggleston says (*Arch. Int. Med.*, 1915, **16**, p. 1) that True Digitalin is unsuited for therapeutic use by oral administration. The nitrites have been used as "cardiac tonics" but, as Cushny says (Pharmacology and Therapeutics, 8th edition, 1924, page 406) any benefit from their use in cardiac conditions arises from their causing decreased resistance to the flow of blood, and it is well known that they (including nitroglycerin) cause dilatation of the vessels, and consequent fall of blood pressure. There can hardly be a more irrational procedure than to use a vaso-dilator, such as nitroglycerin, in collapse or shock in which the blood pressure is exceedingly low.

The action of Digitalis is far more lasting than that of nitroglycerin, hence their combination in fixed proportion in a mixture is irrational. Strychnine can possibly have some therapeutic value in shock, but this is problematic. It should be used alone, if at all, and only as specifically indicated.

Elixir Digitalin Compound is unacceptable for New and Nonofficial Remedies because its composition is uncertain; because the name is not descriptive of its composition; and because it is an irrational combination marketed with claims that are unwarranted.

Correspondence

"THE BASAL METABOLISM OF MAN IN THE TROPICS"

To the Editor:—My attention has been drawn to Dr. E. F. Du Bois' comments on "Basal Metabolism in Health and Disease." I have also read with interest Dr. S. S. Cohen's letter (The Journal, Jan. 28, 1922, p. 297) and your editorial comment (Dec. 31, 1921).

I have been determining the basal metabolic rate in young Bengalese students (aged 22 to 27 years) for some time. Using the Douglas bag and Haldane gas analysis apparatus, I have so far studied fifteen medical students of our college. They show an average basal metabolic rate 9 per cent lower than the generally accepted standards at an average room temperature of 27 C.

It would thus appear that metabolism is somewhat decreased in tropical or semitropical countries, though my findings are not so striking as those of de Almeida.

It may be mentioned that the urea nitrogen, nonprotein nitrogen, creatinine and cholesterol contents of the blood in Bengalese are lower and the uric acid content is higher than the accepted standard values (*Calcutta M. J.*, May, 1925; October, 1925).

H. N. Mukherjee, Calcutta.

GERMANISMS IN THE DUTCH LANGUAGE

To the Editor:—In my copy of The Journal, February 20, I detected something under the headline "Netherlands" that I feel bound to correct. Our language is getting spoiled more and more by Germanisms of various kinds. But we are not Germans yet. So if you haven't got a perfectly adequate English word for the German "Krankenkasse," your correspondent should have used the Dutch "Zichenfonds," at the same time conveying its meaning of a certain form of insurance in case of sickness. And the literal translation "Sickfund" or Fund for the Sick would have been better than the German expression.

It is Prof. van der Valk, not v. den Valk, who was appointed head of the new dermatologic clinic at the Government University, Groningen.

I should like being able to subscribe to your correspondent's opinion of the excellent results of Dutch instruction of the masses in hygiene. I had full opportunity to study the utmost opposite during an epidemic of scarlet fever and in some more casual facts, especially concerning quackery and the advertising of quackery manufacturers.

L. W. Schut, M.D., Vlieland, Netherlands.

DIGITALIS MEDICATION

To the Editor:—In his studies to determine the clinical value of parenteral digitalis medication, Pardee used only the electrocardiogram, a method which has not yet been perfected satisfactorily so as to permit definite conclusions from a therapeutic standpoint.

We have known for some time that relatively high doses of digitalis are well borne when given intravenously. It is also well known, and especially Sahli pointed this out, that small doses will give as good results as large ones. Sahli finds it entirely unnecessary to go beyond 4 cc. (of digalen); in most cases, 2 cc. is fully sufficient to obtain the full therapeutic action. Kottman also showed that large doses (of digalen) are well borne, but he states explicitly that from 1 to 3 cc. will give the same clinical effect. In other words, Kottman and others showed that the upper margin of safety is high, that the zone between the clinically effective and the toxic dose is wide. Observations with other injectable digitalis preparations gave similar results, which demonstrates the relatively small toxicity of digitalis bodies when given intravenously. This cannot be said for strophanthus.

The fact that continued oral administration of digitalis brings about stronger effects than a single injection is in correlation with our newer conceptions of the cumulative action. Gradually some digitoxigenin accumulates, which is not the case with intravenous injections and the rapidly following elimination *en masse*. Furthermore, digitalis acts partly on the sympathetic system, and we know that the administration, for days or weeks, of accelerating or inhibiting substances may bring about reactions in the sympathetic system (sometimes a complete reversal of action) which we can never get even with very large single doses.

In my belief, what the author considers a simple question of dosage is a far more complicated problem. His conclusions may actually prove dangerous, when applied by inexperienced practitioners.

Prof. Max Cloetta, Switzerland.

Department of Pharmacology,
University of Zurich.

[The letter of Professor Cloetta was referred to Dr. Pardee, who replies:]

To the Editor:—I was much interested to receive the criticism of my recent paper on digitalis medication. The critic is certainly quite right in saying that the method of testing digitalis is one which has not yet been perfected so as to permit definite conclusions from a therapeutic standpoint. On the other hand, I have had considerable occasion to check it and I have found it satisfactory.

I am not sure as to what Sahli and Kottman meant when they referred to full therapeutic action and clinical effect. It is not likely that they meant the same thing that I would mean if they have obtained it after 2 cc. or 3 cc. of digalen. I am unfamiliar with and cannot find the literature to which reference is made. My own experience shows that there is a great difference between the activity of 30 minims and 120 minims when given intravenously in each case. I do not find much difference between 30 minims intravenously and 30 minims by mouth, except in the rate of onset of the action. He refers to rapid elimination following intravenous injection. This is not proved as far as I know and I do not believe it occurs. My experience with the intravenous method since the publication of the article has led me to believe that what was said there will stand. An article showing the effects of therapeutic administration of these intravenous doses will appear shortly. It is certainly true that large intravenous doses as well as large doses by mouth may actually prove dangerous when applied by inexperienced practitioners. This is regrettable but cannot be avoided. It should not stand in the way of the wider dissemination of knowledge of the proper dose of digitalis.

I confess that I was greatly surprised at the result of this experimental work with intravenous digitalis preparations. I was slow to accept the facts stated in my conclusion, but was forced to do so; and, as I have said, subsequent usage has quite borne out my conclusion.

Harold E. B. Pardee, M.D., New York.

"CONTROLLING THE ODOR AND TASTE OF ARSPHENAMINE"

To the Editor:—In The Journal, March 20, page 840, I read with much interest Dr. J. H. Stokes' short article on "Controlling the Odor and Taste of Arsphenamine," in which he states that he allows a strong wintergreen or clove wafer to dissolve on the patient's tongue during the injection.

I frequently have patients complain of the same peculiar odor and taste while receiving an intravenous injection of arsphenamine, particularly neo-arsphenamine, and I have always found that this could be almost entirely relieved by smelling a little cotton well moistened with bay-rum. The reason why I used bay-rum is that when looking about for something with a decided odor I happened to have some handy in my office, and it has a peculiar penetrating odor. I have been using bay-rum for this purpose for the last ten years and have been well satisfied with the results, although I have never reported its use.

C. J. Broeman, M.D., Cincinnati.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ALBUMOSURIA

To the Editor:—1. Is the prognosis of albumosuria necessarily unfavorable? 2. Are all cases showing albumose in the urine hopeless? Our textbooks speak of Bence-Jones albumosuria, and give the prognosis as being fatal within two years. The Bence-Jones albumosuria occurs in myelomas, cancer and leukemia. They also mention albumosuria in connection with pneumonia, pregnancy, scurvy and intestinal indigestion. But in giving the prognosis they state that it is of grave significance, and runs a fatal course within two years. The literature is very meager, and we do not know whether the cases in which it occurs in connection with pneumonia necessarily result fatally or not. And likewise for the cases associated with pregnancy, indigestion, etc. 3. I have under my care at this time a young woman of 17, married, and about eight months advanced in her first pregnancy. The urine shows a large quantity of albumosuria: she recently had the greatest percentage of albumin that I have ever witnessed in any one's urine (by volume). We have eliminated the albumin, and now have a very decidedly large amount of albumosuria in the urine. Her face was swelled, but the swelling has disappeared under treatment. Please give me all the information you can reasonably in regard to the significance of albumosuria in the urine in cases other than those called Bence-Jones albumosuria.

J. W. Yankey, M.D., Sylvia, Kan.

Answer.—1. No.

2. No.

3. Deutero-albumose is the type usually found. It differs from the Bence-Jones protein, which is probably a true albumin. Albumosuria is observed in a great variety of conditions, and may occur in association with albumin, the mixed albuminuria of Senator. It does not arise in the kidney but is evidence of infection, irritation, functional disturbance, and the like, in various organs of the body. Large accumulations of pus are particularly prone to cause albumosuria until they have been evacuated or absorbed. Unless it should occur in some condition which of itself will lead to a fatal issue, it is of little prognostic significance.

DIPHTHERIA ANTITOXIN—EPINEPHRINE IN INSULIN HYPOGLYCEMIA

To the Editor:—1. Is it safe to use diphtheria antitoxin intravenously? What are the indications and contraindications? 2. In hypoglycemia induced by overdosage of insulin, will epinephrine cause a liberation of glycogen from the liver, with benefit to the patient? Please do not publish my name.

M.D., Galveston, Texas.

Answer.—1. Diphtheria antitoxin can be given intravenously almost always when it can be given subcutaneously. It is particularly of value in late, advanced cases. Park reports that, given intravenously, 5,000 units is as valuable as 20,000 given subcutaneously. The contraindications are the same as for subcutaneous injection. Anaphylaxis, which occasionally is the cause of severe symptoms, may be looked for in those susceptible to horse serum injection. This applies particularly to patients who at some previous time have received horse serum injections. In these cases it is advisable to give a subcutaneous injection of a few drops of serum. If no reaction occurs, the full dose can be given two or three hours later.

2. Wilder and his associates (*J. Metab. Research* **2**:701 [Nov.-Dec.] 1922) state that epinephrine may be used to combat insulin hypoglycemia in man. They note the relatively short duration of its effect, but emphasize the necessity of administering carbohydrates immediately after the patient is able to swallow. Macleod and Campbell (Insulin and Its Use, 1925, p. 102) do not favor its use. Since the glycogen stores are already depleted in emaciated patients, the amount of glucose set free by epinephrine may be too small to relieve the hypoglycemia. Since it also increases the heart work, the results may be most serious if no glycogen stores are available.

BARIUM SULPHATE FOR CYSTOGRAMS

To the Editor:—Some time during the past year I read in the French journal *Urology* the statement that they were using a barium preparation in the bladder for cystograms. At the recent meeting of the Radiological Society at Cleveland, mention was also made of this fact. The preparation, however, was made after a certain fashion, the substance being exceedingly fine and homogeneous. Will you kindly tell me the method of preparing this medium for cystographic work?

J. E. B. Ziegler, M.D., Eau Claire, Wis.

Answer.—The substance employed was a very fine suspension of barium sulphate, utilized in a manner similar to opaque washings. The barium sulphate is eliminated by micturition or vesical lavage in a short time. Edmund Papin has reported that it is used without inconvenience and is well tolerated (Société française d'urologie, March 16, 1925; *J. d'urol.* **19**:343 [April] 1925). A 40 per cent suspension of fine barium sulphate is being prepared in this country and is under consideration by the Council on Pharmacy and Chemistry.

DOSE OF COD LIVER OIL

To the Editor:—I am anxious to get some definite data as to the amount of cod liver oil necessary for normal infants, preschool children, school children and adults. I find that the statements differ so in regard to pure cod liver oil that I am writing to ask you what is the amount which you consider necessary for normal individuals mentioned and on what you base your conclusions. Has there been sufficient work along this line to give us a scientific backing for the amounts prescribed?

Helen Monsch, Ithaca, N. Y.

Answer.—The experimental data concerning the use of cod liver oil in the prevention of rickets have been confined almost exclusively to rats. Some work has been done on chickens. Harry E. Dubin (*Am. J. Dis. Child.* **30**:72 [July] 1925) writes that, with a dose of 7 mg., rats on the Pappenheimer zucker diet D, which consists of patent flour, 80.9 Gm., egg albumin, 10 Gm., butter fat, 5 Gm., and salts, 4.1 Gm., developed slight rickets. He says that the minimal dose varies both with the potency of the oil and with the type of diet used. While a less than minimal dose for a rat weighing 49 Gm. was 7 mg. of cod liver oil daily, other animals required 14, 21 or 28 mg. of cod liver oil to prevent rickets.

Howland and Kramer (*Am. J. Dis. Child.* **22**:105 [Aug.] 1921) showed that in a 35 months old baby, the healing of rickets determined by roentgenogram occurred after the administration of 2 cc. of cod liver oil given twice a day for two months. They found that from 2 to 4 cc. of cod liver oil, given three times a day for a period as short as three weeks or as long as ten weeks, caused active healing of rickets, as shown by roentgen-ray tests.

Martha M. Elliot (The Journal, Aug. 29, 1925, p. 656) found that from 10 to 20 drops of cod liver oil given twice a day was sufficient to protect young infants against the development of rickets, though, on the other hand, it was found that infants who were kept on this dose for several months tended to show roentgen-ray evidence of early rickets. From her experience she found it necessary in order to protect against this disease to, give one-half teaspoonful twice daily before the first month. During the second month the dose is gradually increased to 1 teaspoonful twice a day. If the roentgenogram shows any increase in the rachitic process, the dose is increased to 1½ teaspoonfuls or even 1 dessertspoonful before the end of the third or fourth month.

These doses have been worked out by the observations of a number of workers, who have checked their results by roentgen-ray examination of the bones.

There are no available data about the dosage of cod liver oil for preschool children, school children or adults. In the period after infancy, rickets does not commonly occur, and cod liver oil is administered for its effect in promoting growth and development and to supply an accessory food substance which is twenty times as potent as butter fat in the prevention of keratomalacia.

HYPERCALCEMIA

To the Editor —In The Journal, March 13, page 803, appears a reply to a query of Dr Joseph Halton, Sarasota, Fla, stating that as yet hypercalcemia has never been demonstrated after oral administration of calcium salts in any quantity and for any length of time. In the light of recent investigations, this statement is erroneous

Luckhardt and his collaborators (*Am. J Physiol.*, 1923-1925; *Proc. Soc Exper Biol. & Med.*, 1923-1925) found that calcium lactate given orally to tetanic dogs relieved symptoms, provided it was given in doses of at least 1 5 Gm. per kilogram of body weight daily.

Salvesen and his associates (*J. Biol Chem* **60**: 327 [June] 1924) observed a serum calcium increase in one of two dogs which received 7 5 Gm of calcium chloride by mouth

Boothby (*Endocrinology* **8**: 662, 1924) succeeded in controlling the symptoms of strumaprivic tetany in the human species by giving calcium lactate in 4 Gm. doses every three hours, day and night.

The foregoing shows directly and indirectly that calcium salts may be absorbed, when given orally, in quantities sufficient to increase the blood calcium In my own observations (*J. Biol. Chem.* **45**: 783 [Oct] 1925) I found that Luckhardt's minimum dosage of 1 5 Gm. of calcium lactate per kilogram of body weight was also the smallest dose that would assure induction of hypercalcemia. Doses of one half this amount induced an increase in serum calcium in dogs, but not consistently. Luckhardt has told me that in recent observations of his he has confirmed my findings

It is not my purpose to discuss the rationale of oral calcium therapy, but merely to call attention to the fact that hypercalcemia may be induced by oral administration of large amounts of certain calcium salts

A. M. Hjort, M.D., Detroit.

TREATMENT OF ALOPECIA

To the Editor —Will you kindly help me out? I have a patient with alopecia universalis The patient began to lose hair about August, 1925, and at the same time stopped menstruating The menses are still suppressed She is 22 years of age, she has one child in good health, the Wassermann reaction is negative, she is not neurasthenic, anemic or diabetic My treatment so far, over a period of about two months, has been quartz light twice weekly, second and third degree burns, with local applications of:

Tinc cantharides .... 24 cc.
Tinc. capsici .... 3 cc
Olei ricini .... āā 3 cc.
Bay rum, q. s .... ad 180 cc.

with no result. Also ovarian and thyroid

H W. Nilssen, M D, Chicago.

Answer —The patient has apparently a case of alopecia areota totalis associated with an endocrine disturbance. The treatment of the universal types of alopecia areata is very unsatisfactory. A sparse regrowth of delicate hairs can sometimes be secured by local therapy with quartz light and stimulants such as Cutler's solution (equal parts of phenol [carbolic acid], tincture of iodine and chloral hydrate). This regrowth is usually not permanent. In addition, arsenic may be used for its tonic effects.

TREATMENT OF RINGWORM

To the Editor —I should like to get some specific treatment outlined through The Journal for the cure of a form of ringworm (cow itch), which is quite common throughout this section of the country It is very common on young cattle and is easily transmitted to people who feed or handle these cattle. It assumes a typical form of ringworm, and is most obstinate to treat when affecting the beardy part of the face Ordinary parasiticides seem to do little or no good in treating this malady.

B E Reeves, M D, West Jefferson, N. C.

Answer —Ringworm contracted from cows may be either of the superficial type, the ordinary tinea circinata, or of the deeper seated type of ringworm infection of the beard. The former variety usually responds readily to the parasiticides ordinarily employed in the treatment of ringworm. The deep seated ringworm infection of the beard is very resistant to treatment. The beard should be kept closely clipped, and epilation carried out either by the use of forceps or roentgenotherapy. The entire bearded region should be sponged twice daily with a solution of 1 per cent mercuric chloride in alcohol, and the affected parts rubbed with a 10 per cent oleate of mercury ointment. Another useful application is an iodized fat made by dissolving 12 per cent iodine crystals in goose grease, this ointment to be rubbed in daily until some reaction is secured, when it should be employed less frequently. Mercurial preparations should not be used on the face at the same time that iodine is employed. Cure ordinarily requires a considerable time, and not infrequently epilation by means of the roentgen ray is the only successful method.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

American Board of Otolaryngology. Canada: Montreal, June 1. Sec, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

Arkansas. Little Rock, May 11-12. Sec, Dr. J. W. Walker, Fayetteville Homeo Board, Little Rock, May 11. Sec., Dr. A. A. Pringle, Eureka Springs Eclectic Board, Little Rock, May 11. Sec., Dr. Claude L Laws, Fort Smith

Delaware: Wilmington, Regular Board and Homeo. Board, June 15-17. Pres, Dr. H. W. Briggs, Wilmington.

Florida St Petersburg, June 14-15. Sec, Dr. H. M. Rowlett, Box 603, Tampa

Iowa Iowa City, June 8 10. Commissioner of Health, Dr. Don M. Griswald, State Capitol, Des Moines

Georgia: Atlanta, June 9-11; Augusta, June 1-3. Sec., Dr. C. T. Nolan, Marietta, Ga.

Kansas: Kansas City, June 15. Sec, Dr. Albert S. Ross, Sabetha.

Kentucky: Louisville, June 22. Sec., Dr. A. T. McCormack, 532 West Main Street, Louisville.

Maryland: Baltimore, Reg Bd, June 15-18 Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore Homeo. Bd, June 15-16. Sec, Dr Joseph S. Garrison, Old Orchard Rd., Ten Hills, Baltimore.

Michigan: Ann Arbor, June 8-10. Detroit, June 14-16. Sec., Dr. Guy L Connor, 707 Stroh Bldg., Detroit.

National Board of Medical Examiners: Part I, June 21-23; Part II, June 22 23. All applications should be made on or before May 15. Sec, Dr J S Rodman, 1600 Walnut Street, Philadelphia.

Nebraska: Omaha, June 8-10. Director, Bur. of Exam. Bds, Mrs. Clark Perkins, Lincoln.

Nevada: Carson City, May 3. Sec., Dr. Simon L. Lee, Carson City.

New Jersey: Trenton, June 15-16 Sec., Dr. Alexander MacAlister, Room 1101, Trenton Trust Bldg, Trenton

North Carolina: Raleigh, June 21-25. Sec, Dr. K. P. B. Bonner, Morehead City

Ohio Columbus, June 8 11. Sec., Dr H. M. Platter, Columbus

Oklahoma: Oklahoma City, June 15-16. Sec., Dr. J. M. Byrum, Shawnee.

Texas: Austin, June 15-17. Sec, Dr. T. J. Crowe, 918 Mercantile Bank Bldg., Dallas.

Virginia: Richmond, June 16 19. Sec, Dr. J. M. Preston, 720 Shenandoah Life Bldg., Roanoke.

California Reciprocity Report

Dr. Charles C. Pinkham, secretary of the California Board of Medical Examiners, reports that twenty-seven candidates were licensed by reciprocity from December, 1925, to February, 1926. The following colleges were represented:

College	LICENSED BY RECIPROCITY Year Grad.	Reciprocity with
Stanford University School of Medicine	(1921)	Nevada
University of Colorado School of Medicine	(1907)	Idaho
Northwestern University Med School	(1909) Illinois, (1912)	Iowa
University of Illinois College of Medicine	(1924)	Michigan
Indiana Medical College	(1910)	Indiana
Indiana University School of Medicine	(1924)	Indiana
University of Kansas School of Medicine	(1918)	Kansas
University of Louisville School of Medicine	(1897), (1906) (1915) Ohio	Kentucky
Tulane University of Louisiana School of Medicine	(1910)	Arkansas
Johns Hopkins University Medical Department	(1917)	Michigan
University of Michigan Medical Department	(1907)	Minnesota
University of Minnesota Medical Department	(1923), (1924)	Minnesota
Ensworth Medical College	(1906)	Kansas
St Louis University School of Medicine	(1912) Iowa, (1920)	Missouri
Washington University School of Medicine	(1924)	Missouri
Columbia University College of Physicians and Surgeons	(1915), (1923) New York, (1923)	New Jersey
College of Phys and Surgs of Syracuse University	(1896)	Nebraska
Meharry Medical College	(1911)	Arkansas
Medical College of the State of South Carolina	(1923)	S. Carolina
University College of Medicine, Richmond	(1913)	Virginia

Book Notices

KIDNEY DISEASE. From the Physician's Viewpoint. By Rolfe Floyd, M.D., Junior Attending Physician and Pathologist at the Roosevelt Hospital, New York. Cloth. Price, $2.50. Pp. 181. New York: James T. Dougherty, 1926.

In his introduction, the author gives a clear and concise survey of the problems encountered in discussing medical renal diseases. In the chapters on classification, he records historical material that may be of great value to the medical philosopher and historian but hardly is apt to arouse the interest or answer the demands of the practicing physician. In the chapter on renal functions, one finds an excellent presentation of the fundamental facts to be considered in qualifying the task of the kidneys, but the author fails to present a workable theory of renal function, though a great many leading clinicians have offered such news, based on clinical evidence in preference to the results of animal experiments. One also misses the desirable emphasis to be laid on one of the most essential features of the renal activity—the elasticity of function to adjust itself to the variations in the offerings of the metabolic end-products. The author is in error in stating that all the current functional theories are based on the conviction that the tubules alone represent the functional units. Many authors agree that it is the glomeruli that excrete the urinary water and the nitrogen compounds, while the tubular system produces the remainder of the urinary solids. The chapter on uremia is characterized by a full presentation of the clinical facts, and excels in sound reasoning. In dealing with renal dropsy, the author gives full recognition to the modern concept, that the intermediate structures play an important part in the production of this clinical phenomenon. The author repudiates the concept and term nephrosis in Volhard's sense, but quotes instances in which, during necropsy, only degeneration of the tubular epithelium was found without any pathologic involvement of the glomeruli. It is satisfactory to note that in dealing with the renal functional tests the author reduces the popular overestimation of the value of the color tests to the proper proportions. One misses, though, an enumeration of the precautions to be employed in order to guarantee a proper evaluation of the results gleaned from the various functional capacity tests. The critical ability of the author cannot be better characterized than by quoting the closing lines of the chapter: "Meantime let us be more particular about the terms we employ and never try to warp nature with them to our own undoing." The chapter on treatment is inadequate, since the author attempted the impossible task of covering the subject in ten pages.

DAS WACHSTUM DES KINDES. Von Prof. Dr. Eugen Schlesinger, Städtischer Fürsorgearzt in Frankfurt a. M. Paper. Price, 6 marks. Pp. 128, with 8 illustrations. Berlin: Julius Springer, 1926.

Schlesinger has reviewed the literature on the growth of the child. His point of view is that of the school physician; hence his observations are concerned chiefly with measurements, tables and systems of procedure. Some chapters are too mathematical to interest the practicing physician. On the other hand, the author's experience during the World War, when he had the opportunity of observing the effect of undernutrition on a large scale, makes chapters of considerable interest. While more a summary of the literature than an exposition of the author's own studies, the book offers a number of interesting conclusions. No procedure for the mathematical determination of growth is entirely satisfactory. The determination of change in length is of more constant value than that of body weight. The characteristic separating the human from all other animal species is the second period of accelerated growth starting at puberty. There is no constant relation between increase in length and in weight. For instance, in the preschool age children gain relatively more rapidly in length than in weight, while during the later school years the reverse is true. There are also changed relations during the different seasons. The influence of any especial food on growth is not definite. Qualitative or quantitative undernutrition affects growth, depending on the duration and severity of the hunger and, above all, on the age of the individual. Should extreme hunger occur in the first few weeks of life, as a rule normal averages will never be reached. Weight is affected sooner and more decidedly than length. The undernutrition in the war resulted in manifest changes as regards both weight and length. During the reparation period, the resumption of the length growth was startling, and greatly overbalanced the weight. The book contains a large amount of material and should appeal to those having a technical and scientific interest in the mathematical determination of body growth.

DISEASES OF THE EYE. A Manual for the Practitioner. By Henry Kirkpatrick, M.B. Cloth. Pp. 132, with 28 illustrations. Calcutta: Butterworth & Co., 1925.

The preface states that "the object of this book is to enable the general practitioner, especially one practicing in remote parts, to render serviceable first aid to such sufferers from diseases of the eye as he may encounter in the course of his work." In every respect the book lives up to this statement, and it furnishes a veritable mine of information for the medical man who has not specialized in ophthalmology. The descriptions are clear cut and in simple language; the word pictures are ample, but not verbose; and the curative measures proposed are such as lie within the power of administration by any medical man. Unnecessary technicalities are avoided, so that the general man is not confused by inconsequential points of differential diagnosis. Of course, ophthalmologists will differ with the author on certain points, for example, the influence of an uncorrected error of refraction on the development of a hordeolum or even a chalazion; but, in the main, he enunciates truths. A limited amount of space is given to a brief description of the technic of certain necessary operations that a man in a remote district might be called on to perform. These descriptions are brief and to the point, but sufficiently clear. It is interesting to note that his choice of operations was undoubtedly influenced by his long residence in India and the character of the work that he was there forced to do. The last seven pages are devoted to an ophthalmic pharmacopeia in a readily usable form. The quality of paper and the printing of the book leave a good deal to be desired, but this is soon forgotten in a consideration of the value of the text.

PRINCIPLES OF PHARMACY. By Henry V. Arny, Ph.M., Ph.D., F.C.S., Professor of Chemistry in the College of Pharmacy of Columbia University. Third edition. Cloth. Price, $8 net. Pp. 1078, with 289 illustrations. Philadelphia: W. B. Saunders Company, 1926.

This book is written primarily for students of pharmacy, but it contains much material with which physicians should be familiar. The present edition is based on the new tenth revision of the U. S. Pharmacopeia. It covers practically the entire field of pharmacy, including the chemistry, physics and even botany of drugs.

OPERATIVE CYSTOSCOPY. By E. Canny Ryall, F.R.C.S., Founder of and Senior Surgeon to All Saints' Hospital for Genito-Urinary Diseases, London. Cloth. Price, $25. Pp. 47, with 670 illustrations. St. Louis: C. V. Mosby Company, 1925.

Up to now the beginner in operative cystoscopy had to rely on self-tuition as the only possibility in instruction. This book answers the cry for practical study and embodies the results of long and progressive work. Its publication will prove of the greatest value to the budding specialist. It is the first volume of its kind that has been published in any language, and it fills a great gap in the teaching of intravesical procedures. The text is concise; if any adverse criticism could be given, too concise; yet it is clear, to the point and comprehensive in its subject matter. The pages on local anesthesia are interesting, but one could hardly follow the author in his indiscriminate use of cocaine; American urologists have almost entirely discarded cocaine in favor of procaine. The various points in technic for the removal of ureteral calculi are most ingenious and might well be tried and added to those in general use. The author has devised many instruments which are appealing in the logic of their employment and at the same time simple in their manipulation in the hands of the experienced cystoscopist. Cystoscopic litholapaxy, although not entirely new, is so well and thoroughly illustrated as to make the procedure a relatively simple one. The many plates on diathermy and high frequency in their various uses and their various progressive stages of treatment make probably the most valuable group in this large volume. The subject is dealt with in detail, and if for no other reason, argues strongly for the book as an adjunct to the urologist's armamentarium. The text on this subject is given in full and practical detail. Each colored plate throughout the book is an artistic painting true to the pathologic picture it portrays. Their number is legion and the greatest value in them are the progressive stages of the various treatments and their results. The book will be invaluable to the beginner in operative cystoscopy, and might well be used for reference by those more experienced.

PLASTIC SURGERY OF THE NOSE. By J. Eastman Sheehan, M.D., F.A.C.S., Associate Surgeon and Lecturer to the International Clinic of Otorhinolaryngology and Facio-Maxillary Surgery, Paris. With a Foreword by John F. Erdmann, M.D., F.A.C.S., Professor of Surgery, New York Post-Graduate Medical School and Hospital. Cloth. Price, $10. Pp. 249, with 186 illustrations. New York: Paul B. Hoeber, Inc., 1925.

This book is based on the author's six years' experience in plastic surgery. About half of the text is devoted to cosmetic correction of nasal deformities. Since plastic surgery is really not a new branch of surgery, but dates from the time of Celsus and Tagliocozzi, we do not look for anything triumphantly new. Naturally, since the development of this field in the war, we may expect a great improvement in the way of modifications and technic, but the fundamental principles remain the same. The author makes a plea for professionalism instead of amateurism in the field of plastic surgery, and this point is well taken; for it should be stressed that work in this field should be in the hands of those who have made a special study of it. One must take exception to the author's feeling that the patient is continuously under observation by others and his failure to bring out that in the greater number of cases the patient is under the observation of himself. The author has divided the text into fifteen chapters titled as to his own inclination, featuring the columellar incision as an original operation. It is not well understood just what the reason was for giving the deflection of the septum a chapter in such a book, particularly as no relation of the septal deformity to plastic surgery of the nose is indicated. The technic is simply outlined and illustrated, but more should have been said about the unusual results and complications, as the simplicity of words may lead to a light-hearted attempt on the part of the reader to follow the methods, wholly unaware of the pitfalls. However, the author has in mind the abuse of this type of surgery when he says, "I would like this handbook to exemplify the conviction that in even the simplest cases of repair, whatever in surgery is worth doing is worth doing as well as it can be done and that it ought to be attempted only by those whose knowledge and training have been such as to justify the undertaking."

GRUNDRISS DER HEILPADAGOGIK. Von Dr. Phil. Theodor Heller, Direktor der heilpadagogischen Anstalt Wein-Grinzing. Third edition. Paper. Price, 15 marks. Pp. 765, with illustrations. Leipsic: Wilhelm Engelmann, 1925.

This textbook on nervous and mental disorders of children, with especial reference to the problems of special pedagogy, is a thorough review of the German literature (with scant knowledge of the vast American literature on the subject) and contains a valuable bibliography. Many chapters are unnecessarily long, containing classification after classification and too numerous definitions. The first 500 pages comprise a textbook on mental deficiency with three chapters on special pedagogy and institutional training. Part II (about 300 pages) deals with nervous and psychopathic children, their pedagogic therapy and prophylaxis. It is as complete as part I and includes a critical summary of the contributions of the psychanalysts. In his introduction, Heller outlines his policy in regard to the mental problems that belong legitimately to the heilpedagogue (therapy teacher). The "therapy pedagogue" should be utilized wherever a specialized type of teaching is required, as in the deaf, blind and feebleminded. At first his rôle was limited to feeblemindedness. Now, says Heller, it extends to all abnormal children, in whom the abnormal function can be directed by "individually applied developmental conditions." This would appear to include everything in child psychiatry except the rare cases of juvenile psychoses. Heller is quite insistent on this point: "Not only in disturbances of intelligence but also in the affect and volitional life are the services of Heilpädagogie required." From the medical point of view, the services of the special educator are limited to the purely pedagogic phase of nervous or mental disease. To take an example from organic medicine, the diagnosis of deafness and its medical treatment is performed by the physician, the teaching of lipreading by the heilpedagogue. Such methods of therapy as have evolved out of the physician's particular experience and diagnostic skill can safely be entrusted to him alone and are part and parcel of his general armamentarium. This includes hypnosis, psychanalysis, and other forms of specialized psychotherapy. Certainly the educator and the psychologist are coming more and more into fields previously considered the domain of the physician. As long as the patient profits, so much the better. The danger lies chiefly in attempting to include cases for which they have no training.

MANUAL OF HYGIENE AND PUBLIC HEALTH: A Text Book for Medical and Public Health Students. By Jahar Lal Das, D.P.H. Offg. Asst. Director of Public Health, Bihar & Orissa. With an introduction by Lieut.-Colonel W. C. Ross, M.B., Ch.B., D.P.H., Director of Public Health, Bihar and Orissa. Cloth. Price, 10 shillings, 6 pence net. Pp. 634, with 105 illustrations. London: Butterworth & Co., 1925.

The progress of public health in India is of interest to all the world. Dr. Das' book appears about a year after the fourth edition of a similar volume in which he collaborated. The subjects usually included in a manual on public health are discussed. On the whole, these discussions are well written; but in some cases details of laboratory procedures are so fully given that the reader loses the more fundamental aspects of the problems. The temperature for milk pasteurization is given as 167 F. This is some 20 degrees higher than American practice, and such a temperature would be impracticable in this country. It is of interest to note that the infant mortality rate in Calcutta for 1921 was 330, and for 1922, 287. The author believes that early marriages and improper attendance during labor are largely responsible for this excessive rate. The expectation of life in India is also far below that of European countries: 22.59 at time of birth in India, as against 46.04 for England in 1911. The book contains much material on foods, but perhaps this is justified by local conditions. A fuller discussion of the infant welfare problem would be of interest.

PATHOLOGY OF THE MOUTH. By Frederick B. Moorehead, M.S., D.D.S., M.D., Dean of the Department of Oral Surgery and Pathology, College of Dentistry, University of Illinois, and Kaethe W. Dewey, M.D., Assistant Professor of Pathology, College of Dentistry, University of Illinois. Cloth. Price, $7 net. Pp. 640, with 213 illustrations. Philadelphia: W. B. Saunders Company, 1925.

The authors state that they have treated the subject of the mouth in both its local and its interdependent relations, its primary and secondary lesions, and that while there is a scattered literature on the subject, this is the first time it has been treated in its entirety in a single volume. This is true so far as publications in English are concerned. The method of treatment is such that a better title or subtitle would have been: Etiology, symptomatology, relationship and pathology of the diseases of the mouth. Part I deals with general diseases; part II, with tumors. The best chapter is the one about giant cell tumors, and one of the weaker chapters is the one concerning pyorrhea. It would appear that the authors had not been able to suppress their own interests for the sake of a better balanced text. A bibliography of 505 titles is appended; while this is more elaborate and more nearly complete than those found in most domestic dental textbooks, it is poorly arranged and there are numerous discrepancies between it and the text. The accuracy of some statements may well be questioned as: "Angina syphilitica is the most frequent form of secondary syphilis of the mouth." and "Uremia favors the development of pyorrhea." The arrangement in many places could have been improved; e. g., mixed cell tumors are discussed in three different chapters. One wonders why the necrosis of the jaw bones due to radioactivity was not discussed in either chapter 8 or chapter 24. The illustrations, on the whole, are well chosen and technically excellent, though a few either do not represent at all what the legends indicate or represent them unsatisfactorily, as figures 10, 20, 43 and 151. Credit has been acknowledged to individuals for material used in illustrations in certain cases in which it would have been in better taste to credit the institutions from which the specimens were borrowed. The volume deserves careful study by all those interested in pathologic conditions of the mouth.

Man: His Making and Unmaking. By E. Boyd Barrett, M.A., Ph.D. Cloth. Price, $2.50. Pp. 269. New York: Thomas Seltzer, 1925.

This is a book of rather loose structure in which a multitude of assertions are made with a lack of relating background. There is a religious tinge to the general atmosphere of the book, and yet the author tells the church that an effort must be made to understand man instead of expecting blind obedience. The personality chapters at the end of the book are much its best features. However, there is merely a suggestion of what the problem is in each case, with no thorough analysis.

Die Ursache des Carcinoms. Von Prof. R. P. Van Calcar. Aus dem bacteriologisch-hygienischen Laboratorium der Universität Leiden. Paper. Pp. 66, with 45 illustrations. Leiden: S. C. Van Doesburgh, 1926.

This is an attempt to revive the theory that cancer represents a symbiosis of protozoa and cancer cells. The author believes that achylia is a predisposing factor. The arguments advanced are not convincing to those not committed to this theory of the causation of cancer.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

Die Schädigungen der Haut durch Beruf und gewerbliche Arbeit. Herausgegeben von Obermedizinalrat Dr. Karl Ullmann, Privatdozent an der Universität in Wien. In Gemeinschaft mit Dr. Moriz Oppenheim, Primararzt und Professor an der Universität in Wien, und Obermedizinalrat Dr. J. H. Rille, o. Professor an der Universität in Leipzig. Band II, Lieferung 5-8. Paper. Price, 24 marks. Pp. 384, with 98 illustrations. Leipsic: Leopold Voss, 1926.

Industrial skin diseases due to formaldehyde and coal tar derivatives.

Lehrbuch der speziellen Pathologie und Therapie der inneren Krankheiten. Für Studierende und Aerzte. Von Professor Dr. Med. Adolf Strümpell, Direktor der medizinischen Klinik der Universität Leipzig. Erster Band. Von Professor Dr. Med. et Phil. Carly Seyfarth, Assistent an der medizinischen Klinik der Universität Leipzig. Twenty-fifth edition. Paper. Price, 50 marks. Pp. 872, with 147 illustrations. Leipsic: F. C. W. Vogel, 1926.

Twenty-fifth edition of standard German textbook.

An Elementary Course in Tropical Hygiene. Part II. By Mary G. Blacklock, M.B., B.Sc., D.T.M., Lady Medical Officer, Sierra Leone, West African Medical Service. Preface by Andrew Balfour, C.B., C.M.G., M.C., Director, London School of Hygiene and Tropical Medicine. Paper. Price, 2 shillings, 6 pence net. Pp. 108, with 33 illustrations. London: John Bale, Sons & Danielsson, Ltd., 1926.

Part two of popular book on tropical hygiene.

Buchanan's Text-Book of Forensic Medicine and Toxicology. By John E. W. MacFall, M.D., D.P.H., M.B., Professor in Forensic Medicine and Toxicology, University of Liverpool. Ninth edition. Cloth. Price, $5. Pp. 445, with 57 illustrations. New York: William Wood & Co., 1925.

Ninth edition of standard British work based on British medicolegal procedure.

Trial of the Seddons. Edited by Filson Young. Second edition. Cloth. Price, 10 shillings, 6 pence net. Pp. 420, with 3 illustrations. Edinburgh: William Hodge & Co., Ltd., 1925.

Report of a famous British murder trial in which the Marsh test for arsenic played the leading rôle.

Trial of Dr. Pritchard. Edited by William Roughead, Writer to the Signet. Cloth. Price, 10 shillings, 6 pence net. Pp. 343, with illustrations. Edinburgh: William Hodge & Co., Ltd., 1925.

Dr. Pritchard, quack, murders many with aconite.

Facts on the Heart. By Richard C. Cabot, M.D., Professor of Medicine and of Social Ethics at Harvard University. Cloth. Price, $7.50 net. Pp. 781, with 163 illustrations. Philadelphia: W. B. Saunders Company, 1926.

Clinical records of 1,906 cases of heart disease, with general consideration.

Trial of Oscar Slater. Edited by William Roughead. Second edition. Cloth. Price, 10 shillings, 6 pence net. Pp. 306, with illustrations. Edinburgh: William Hodge & Co., Ltd., 1925.

A murder trial in which every aspect of the psychology of personal identification was considered, reported by a master of criminal reporting.

Psychotherapy. Mental Elements in the Treatment of Disease. By Edward Wyllys Taylor, James Jackson Putnam Professor of Neurology in Harvard University. Harvard Health Talks, 14. Cloth. Price, $1. Pp. 53. Cambridge: Harvard University Press, 1926.

Well written historical review, with emphasis on need of scientific medical education on mental healing.

Bacteriology and Applied Immunology for Nurses. By Robert A. Kilduffe, A.B., A.M., M.D., Director, Laboratories, Atlantic City Hospital. Leather. Price, $2. Pp. 252, with 79 illustrations. Milwaukee: Bruce Publishing Company, 1926.

Nurse's textbook with much information that a nurse need not know.

Die chirurgische Behandlung der Lungentuberkulose. Erfahrungen und kritische Betrachtungen. Von Dr. A. Bruner, Oberarzt an der chirurgischen Universitäts-Klinik, München, und Dr. G. Baer, Oberarzt der Fürsorgestelle für Lungenkranke, München. Paper. Price, 3.60 marks. Pp. 65, with 13 illustrations. Berlin: Julius Springer, 1926.

Monograph on thoracoplasty for tuberculosis.

Animal Parasites and Human Disease. By Asa C. Chandler, M.S., Ph.D., in charge, Hookworm Research Laboratory, School of Tropical Medicine, Calcutta, India. Third edition. Cloth. Price, $4.50 net. Pp. 573, with 254 illustrations. New York: John Wiley & Sons, Inc., 1926.

Third edition of a well written and popular work.

Trial of William Palmer. Edited by George H. Knott, Barrister-at-Law. Second edition. Revised by Eric R. Watson, Barrister-at-Law. Cloth. Price, 10 shillings, 6 pence net. Pp. 348, with illustrations. Edinburgh: William Hodge & Co., Ltd., 1925.

A surgeon, turned murderer, uses strychnine as an agent.

Human Metabolism with Enemata of Alcohol, Dextrose, and Levulose. By Thorne M. Carpenter. Paper. Pp. 197, with 91 charts. Washington: Carnegie Institution of Washington, 1925.

Concludes that rectal feedings are absorbed and utilized without aid of secretions of upper digestive tract.

Das Sputum. Von Professor Dr. Heinrich von Hoesslin. Second edition. Paper. Price, 66 marks. Pp. 485, with 130 illustrations. Berlin: Julius Springer, 1926.

Complete consideration of bacteriology and laboratory study of sputum.

Methodik der Untersuchungen von Nervenelementen des makro- und makro-mikroskopischen Gebietes. Teil I. Von Prof. Dr. W. Worobiew. Paper. Pp. 130, with 39 illustrations. Berlin: Oscar Rothacker.

Research on staining of tissues of nervous system.

Pediatric Notes. By Wilburt C. Davison. Second edition. Cloth. Price, $1.25. Pp. 81. Baltimore, 1926.

Practice notes on Johns Hopkins methods of infant feeding and infant care.

Trial of George Henry Lamson. Edited by Hargrave L. Adam. Cloth. Price, 10 shillings, 6 pence net. Pp. 192, with illustrations. Edinburgh: William Hodge & Co., Ltd., 1913.

Another medical murderer who used aconitine.

The Medical Department of the United States Army in the World War. Volume VIII. Field Operations. Prepared under the direction of Maj. Gen. M. W. Ireland, the Surgeon General. By Col. Charles Lynch, M.C., Col. Joseph H. Ford, M.C., Lieut. Col. Frank W. Weed, M.C. Cloth. Pp. 1097, with illustrations. Washington: Government Printing Office, 1925.

Tabulae Biologicae. Herausgegeben von C. Oppenheimer und L. Pincussen. Band II. Thermochemie. Physikalische Chemie der Fermente. Elektrizität u. Elektrochemie. Strahlenlehre. Spezielle Biophysik. Sekrete. Paper. Price, $13. Pp. 567, with illustrations. Berlin: W. Junk, 1925.

Jaarboek der Rijksuniversiteit te Groningen, 1924-1925. Paper. Pp. 135. Groningen: J. B. Wolters, 1925.

Selected Contributions from the Peking Union Medical College. Volume V. Paper. Peking, 1925.

Miscellany

THE GORILLA AND MAN

In a series of lectures at the Royal College of Surgeons, in London, Sir Arthur Keith said that two extinct species of mankind, the Neanderthal and Rhodesian, had their faces modeled on gorilline lines. Early opponents of Darwin's theory laid stress on the fact that the foot of man was provided with a special muscle—the peroneus tertius. There was now no doubt that this muscle, which had not yet become firmly fixed in man's structure, occurred as a variation or sport on the foot of the gorilla, but had never been observed in that of any other ape or animal. In two highland, or Kivu, gorillas recently dissected by Dr. Morton of Harvard University, this muscle was fully formed; it occurred occasionally, as had been noted by European anatomists, in the feet of the Gabun, or lowland, gorilla. The muscles of the calf of man's leg had certain peculiarities in their arrangements; occasion*ally the calf muscles of the gorilla made an approach* toward the human disposition. Man's thumb had a special extensor muscle; it occurred as a sport in the thumb of the gorilla. On the inner side of man's upper arm was the fibrous remnant of a climbing muscle; on most gorillas this muscle was also in a degenerated state. Although the gorilla showed certain leanings toward man in its structure, yet, in this respect, it stood infinitely nearer to the chimpanzee than to man.

No one who had compared their bodies could doubt that the gorilla and the chimpanzee had risen from a common ancestor. Yet evolution had proceeded in their bodies and minds in opposite directions. In various breeds of chimpanzee there was a tendency for growth to stop short of the full point of maturity. The male chimpanzee, when its body reached about 10 stone (63.5 Kg.) in weight, stopped short, but that of the male gorilla went on until a solid weight of some 25 or 30 stone (from 160 to 190 Kg.) was reached. The highland, or Kivu, gorilla, which lived on the steep mountain sides of equatorial Africa, might weigh as much as 32 stone (203 Kg.). He was the giant of anthropoid apes. To explain why the chimpanzee had evolved in one direction and the gorilla in another, naturalists had to fall back on medical experience. When acromegaly was first observed, Dr. Harry Campbell was impressed by the resemblance presented by certain features to those of the gorilla. He sought to explain acromegaly in man as a reversion to an ancestral state. But it seemed more legitimate, in the present state of our knowledge of the action of hormones on the growth of the body, to regard gorilline characters, whether they occur as a normal manifestation in the life history of the gorilla, or as an abnormal manifestation in the life history of a person with acromegaly, as being due to an increased action of that element of the pituitary gland which influences the processes of growth.

The brain of man, said Keith, formed the climax of an ascending series from the marmoset through the gorilla. Between the highest gorilla and the lowest human brain we knew as yet only one intermediate stage—that of *Pithecanthropus*—and in size and pattern this brain has reached almost, if not quite, the threshold of humanity. The point of brain development reached by the human brain marked the furthest point attained by any primate, but in weight of body, volume of lung, size of tooth, massiveness of jaw and strength of muscles — particularly those of mastication — the gorilla crowned the primate series. Yet at birth the gorilla was smaller (under 5 pounds [2.3 Kg.] in weight) than the newborn child, and was just as nude and helpless. Its skull was as rounded and smooth as that of a human infant, and the muscles of mastication were no larger. The temporal muscles for example, started from the same base line on the side of the skulls of the gorilla, chimpanzee and man, but wherea the temporal muscles of the gorilla extended their origi *until great bony crests were formed along the vault of th* skull, those of the chimpanzee and of man stopped short o such an extreme. In man, the temporal muscles were arreste in their ascent at a stage corresponding to that reached b the gorilla in youth; in the chimpanzee, these muscles becam arrested at a point reached by the gorilla in early adolescence In man, the evolutionary tendency had been to retain mor and more the structural characters of youth; in the gorill the tendency had been in the opposite direction—to increas the size of jaw and strength of body. In his evolutionar career, man had moved in the direction of brain, while th gorilla had moved in the direction of brawn. The evolutionary process which had produced such diverse forms from common ancestor constituted at once the most enigmatic an also the most interesting experiment in the whole realm c nature.

THE TEACHING OF ROENTGENOLOGY

Organizers of special training courses for physicians in an given specialty always experience considerable difficulty i arranging the course of instruction so as to be adapted to th various talents and the widely differing degrees of preparation of the physicians who register for the course. That i peculiarly true of special training courses in a new science such as roentgenology. In the March number of *Radiology*, Dr. Guido Holzknecht, professor of medical roentgenology, tells how he endeavors to solve the problem in the teaching of roentgenology at the Central Roentgen Institute, Vienna, Austria.

The most important feature in the described scheme of instruction is the hour that the director of the institute spends in the initial examination of each applicant for the course as to his individual capacities and previous training. The examinations reveal at once that every applicant needs a different course of study. Holzknecht shows how the roentgenologic institutes of large hospitals can solve what at first seems impossible of solution, provided they do not lose sight of the original purpose of the institute, the best possible care of patients in need of roentgenologic treatment.

The division of the work of instruction among the technicians and the several assistants is the principle on which the individual instruction is based. The distinction between plate diagnosis and fluoroscopic diagnosis and therapy furnishes the basis for the first subdivision of the instruction, since it separates from the diagnostic point of view those with a surgical bent from those who are interested more particularly in internal medicine. The directors of those two departments, together with their assistants, perform their work in the presence of the pupils, while thinking aloud. "The pupils listen, offer aid, and eventually are allowed to participate independently, for direct practice is recognized as the fundamental principle applicable to their training." As opportunity offers, general courses for beginners and special courses for advanced pupils are held. The courses are not combined, even for short periods, as this has been found to be impracticable. Once a week informal conferences are held, which are attended particularly by the more advanced pupils. The books recommended for study vary with each pupil. To sum up, the four essential forms of instruction employed in the special training in roentgenology given physicians consist of: study of textbooks adapted to the individual's requirements; practical laboratory work, lecture courses and seminar. But no absolutely fixed schedule is followed. The method Professor Holzknecht describes seems well adapted not only to the teaching of roentgenology but also, with modifications, to instruction in other medical specialties when the applicants, as is usually the case, vary greatly in ability, capacity and previous medical training.

Medicolegal

When and on Whom Demand for Necropsy Should Be Made

(Gath v. Travelers' Ins. Co. of Hartford, Conn. (Ohio), 149 N. E. R. 389)

The Supreme Court of Ohio, in reversing a judgment that was rendered in favor of the defendant in an action on a policy of accident insurance, says that a clause in the policy gave the company the right and opportunity to make a necropsy in case of death. It appeared that the agents of the company had knowledge, at least thirty hours before the burial, of the death of the insured, and entertained a belief that his death was caused by other than accidental means. The widow was the sole beneficiary under the policy, and continued to reside at the family home during the time between the death and the burial. A son who lived in Michigan was at the time at his mother's home, looking after the funeral arrangements. At no time between the death and the burial did the widow have any notice of a demand for a necropsy on the body of her husband. The notice which she received of that demand was received three days after the burial. A verbal demand had been made twice on the son, who each time unequivocally said that he would not notify his mother of the demand, but would assume all responsibility therefor. The court holds that the demand for a necropsy was not seasonably made by the agent of the insurance company, and was not made on the proper person. When the death is known to an agent of the insurer, a reasonable time before burial, who has justifiable grounds for entertaining the belief that such death was caused by other than accidental means, the demand for a necropsy, to be seasonable, must be made before burial. Where a widow living at the home is named as the sole beneficiary of the insured, under the opportunity clause of the policy such demand should be made on her. Verbal requests for opportunity to make a necropsy, made by an agent on the son before the burial, are not sufficient, where the son unequivocally notifies the agent that he will not, and in fact does not, communicate such requests to the widow beneficiary. Necropsy clauses, such as that in this case, are construed strictly by the courts in favor of the insured, and require a demand for a necropsy to be made before burial, especially when the death of the insured is known to the agents of the company, and it has reasonable grounds to believe that it was not caused by accidental means. Whether a court should authorize the disinterment of a body for purposes of a necropsy naturally depends on the peculiar circumstances arising in each case. The reported cases on the subject show that the courts very reluctantly permit any interference with human remains when once interred.

Death from Pneumonia After Septicemia from Lancing

(Cameron v. Massachusetts Protective Assn. (Mo.), 275 S. W. R. 988)

The Kansas City (Mo.) Court of Appeals, in affirming a judgment in favor of the plaintiff, who was the beneficiary under an accident insurance policy, says it thinks that there is no question but that if the insured, in lancing or cutting a pimple on his left forearm, unintentionally used an instrument having thereon an anaerobic germ, or germs, and that such germs were inserted into his system, the occurrence was an accident within the meaning of the policy. He intended to cut himself, but the insertion of the germs into his system was unintentional. There was testimony from which the jury might find that the pimple had been punctured by some instrument having on it germs which resulted in blood poisoning. The evidence showed that before the cutting of the pimple the insured was a man 40 years of age, strong physically, and in good health. There was nothing in the evidence to suggest that he would intentionally do such an unnatural thing as to insert deadly germs into his system; on the other hand, the presumption was to the contrary. There was testimony tending to show that the germs he inserted into his system caused the pneumonia from which he died, and there is no question but that the plaintiff was entitled to recover on the policy, which stated that it insured "against loss resulting from bodily injuries effected directly and independently of all other causes by accidental means (excluding self-destruction, or any attempt thereat, while sane or insane), and due solely to external, violent and involuntary causes, and leaving visible marks upon the body." The court does not agree with the contention that the provision of the policy "that this policy does not cover death due to disease, whether acquired accidentally or otherwise," prevented recovery in this case for the reason that the insured died of a disease. Various definitions of disease were given by the physicians who testified in this case, and that even a broken leg would be a disease. However, the defendant stated in its brief, "Of course, it was not intended in the present policy that a broken leg should be regarded as a disease"; and, with this admission, it seems to the court that the point falls. The construction to be given to this provision of the policy was that it meant that the insurer was not to be liable for death due to disease acquired accidentally save through "bodily injuries, effected directly and independently of all other causes by accidental means (excluding self-destruction, or any attempt thereat, while sane or insane), and due solely to external, violent and involuntary causes, and leaving visible marks upon the body." If this was the meaning, the facts in this case did not come within the exceptions.

Quarantine by Health Officer for Venereal Disease

(Ex parte Fisher (Calif.), 239 Pac. R. 1100)

The District Court of Appeal of California, First District, division 1, says that in this application for a writ of habeas corpus to secure the petitioner's release from quarantine, it appeared from the petition that the health officer of the city and county of San Francisco, after an examination, had ordered the petitioner quarantined at the county hospital, he having found her to be suffering with a gonococcus affliction. It was contended that such detention was unlawful, for the reason that such officer was without authority to control the body of the petitioner, such power residing alone in the state board of health. But section 2979a of the political code of California confers on health officers of every county or city and county the right to take such measures as may be necessary to prevent the spread of diseases of the character of which the petitioner was suffering. While the section does not in express terms confer on the officer in question the right to take possession or control of the body of one so afflicted, as it does in the case of the state board of health, the isolation of one afflicted with an infectious disease is a reasonable and proper measure to prevent its increase and spread. The petition showing on its face a legal cause of detention, the application for a writ of habeas corpus was denied.

Death from Puncturing Bowel in Medicating Hemorrhoids

(Hoosier Casualty Co. v. Royster (Ind.), 149 N. E. R. 164)

The Supreme Court of Indiana, in affirming a judgment in favor of the plaintiff, says that she, as beneficiary, brought this action on an accident insurance policy issued by the defendant company to her husband. The policy insured against injury resulting "necessarily, directly, and independently of all other causes from bodily injuries, effected through external, violent, and accidental means." The complaint alleged that the death of the insured was due to external, violent and accidental means in that he was afflicted with hemorrhoids and in treating them he used a tube for the introduction of medicine into the lower bowels, in doing which he accidentally and without intention on his part punctured the lower bowels with the tube, from which injury he sickened and on the fourth day after the accident died; that as visible marks of the injury there were the hole about one-fourth inch in diameter so punctured in the lower bowel and, in a short time after the injury, a swelling and hardening of the lower part of the abdomen. The evidence showed that the hemorrhoids extended about 2 inches up in the bowel, and that an operation performed before the death of the insured showed that the injury in the lower bowel was about 10 inches above the opening; that the wall of the bowel about the injured place was in a healthy condition, and that there was no indication of any disease condition of the bowel at or near the puncture. A surgeon testified that in his opinion a person would not be able to withstand the pain long enough to puncture the bowel by steady pressure, manipulating the instrument himself, but that if, in inserting a tube, he got it against a fold of the bowel or some other obstruction, and the end of the tube should then slip and suddenly move more rapidly against the wall of the intestine, and strike it with force, that would cause such a puncture as was found; or, if a person had taken a sitting posture, and suddenly and accidentally put more weight on the tube than was intended, causing it to enter suddenly and with force, it could cause the wound that was found. The court thinks that a fair consideration of the evidence would indicate that, when the assured used this instrument which he had used before to medicate his hemorrhoids, something accidental and unexpected did occur; that was that the instrument was, on account of some unexpected occurrence, while he was using it, unintentionally inserted beyond the place where the medicine was intended to be used, and the injury thus produced. Wherefore the court holds that the death of the insured occurred through external, violent and accidental means, within the meaning of the policy on which this action was brought; and that the finding of the trial court in favor of the plaintiff was sustained by sufficient evidence, and was not contrary to law.

Insane and Other Delusions of Testators

(Burris et al. v. Burris et al. (Ky.), 276 S. W. R. 820)

The Court of Appeals of Kentucky, in affirming a judgment allowing the probate of a will, says that none of the facts relied on to constitute an insane delusion measured up to the legal requirements necessary for its creation. It is the law that if a testator at the time he executes his will is laboring under some insane delusion with reference to a matter relevant to his free agency to act in disposing of his property by will, his testamentary disposition will be set aside therefor as not having been his free and untrammeled act. The pertinent question then is, whether there is evidence of such insane delusion as to produce that effect. If there is, it then becomes the duty of the court to submit it to the jury by a proper instruction. In determining the first proposition, it is well to remember that it is not every delusion under which a testator may be laboring that rises to the dignity of an insane delusion so as to invalidate his will; for an opinion, conclusion, or impression as to the existence of certain facts entertained by him, though founded on false premises or untrue surmises, is a delusion but not necessarily an insane one. One may be deluded into such erroneous beliefs by vague and insufficient evidence, without possessing any of the symptoms of insanity, and when his delusion produces no disease of his mind or in anywise dethrones his reason. In such case the possessor of the delusion labors only under a misconception of the facts without any impairment of his mentality.

An insane delusion, such as to render a will invalid, is defined by the authors writing on the subject:

> As a belief in things which do not exist, and which no rational mind would believe to exist. The essence of an insane delusion is that it has no basis in reason and cannot be dispelled by reason. The subject-matter must have no foundation in fact, for there is no such thing as a delusion founded on facts. It must not be founded on evidence, for if there is any evidence, however slight or inconclusive, which might have a tendency to create the belief, such belief is not a delusion. Nor can one be said to act under an insane delusion if this condition of mind results from an inference or a process of reasoning, however illogical, drawn from facts which are shown to exist. A delusion is therefore to be distinguished from a mere mistaken opinion. An insane delusion is not established when the court is able to understand how a person situated as the testator was might have believed all that the evidence shows that he did believe and still have been in full possession of his senses. A false belief, even in facts which actually did not exist, or a belief which a rational person may entertain, does not constitute an insane delusion. Nor are absurd opinions, however unfounded, insane delusions.—22 R. C. L. 102, 103, par. 54.

That definition is approved by all the courts of the country, including this one, under the varying facts of each particular case.

Society Proceedings

COMING MEETINGS

American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 10-12. Dr. H. G. Bugbee, 40 E. 41st Street, New York, Secretary.

American Association of Industrial Physicians and Surgeons, Philadelphia, May 24-26. Dr. F. L. Rector, 22 East Ontario Street, Chicago, Secretary.

American Bronchoscopic Society, Montreal, Canada, May 29. Dr. Henry B. Orton, 671 Broad Street, Newark, N. J., Secretary.

American Child Health Association, Atlantic City, May 17-22. Dr. S. J. Crumbine, 370 7th Ave., New York City, Secretary.

American Dermatological Association, Philadelphia, May 27-29. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary.

American Gastro-Enterological Association, Atlantic City, May 3-4. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.

American Gynecological Society, Stockbridge, Mass., May 20-22. Dr. A. H. Curtis, 104 S. Michigan Ave., Chicago, Secretary.

American Laryngological Association, Montreal, Canada, June 3-5. Dr. George M. Coates, 1811 Spruce Street, Philadelphia, Secretary.

American Laryngological, Rhinological, and Otological Society, Montreal, Canada, May 31-June 2. Dr. Robert L. Loughran, 145 West 58th Street, New York, Secretary.

American Neurological Association, Atlantic City, June 1-3. Dr. Henry A. Riley, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., June 14-16. Dr. Emory Hill, Professional Building, Richmond, Va., Secretary.

American Otological Society, Montreal, Canada, May 31-June 3. Dr. Harold Walker, 390 Commonwealth Avenue, Boston, Secretary.

American Pediatric Society, Niagara Falls, Canada, May 31-June 2. Dr. Howard Childs Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Psychiatric Association, New York City, June 8-11. Dr. Earl D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, New York City, June 11. Dr. Sanger Brown II, 173 East 70th Street, New York City, Secretary.

American Roentgen Ray Society, Detroit, May 18-22. Dr. C. L. Martin, Baylor Hospital, Dallas, Texas, Secretary.

American Society of Clinical Investigation, Atlantic City, May 3. Dr. J. H. Austin, University of Pennsylvania, Philadelphia, Secretary.

American Surgical Association, Detroit, May 24-26. Dr. R. B. Greenough, [illegible] Street, Boston, Secretary.

[illegible] Society, Philadelphia, June 10-12. Dr. W. J. [illegible] Ave., N. W., Washington, D. C., Secretary.

[illegible] Association, Boston, May 17-19. Dr. H. G. Hamer, [illegible] Building, Indianapolis, Ind., Secretary.

[illegible] Hot Springs, May 18-20. Dr. W. R. Bathurst, [illegible] Boyle Building, Little Rock, Secretary.

Association of American Physicians, Atlantic City, May 4-5. Dr. F. W. Peabody, Boston City Hospital, Boston, Secretary.

Conference of State and Provincial Health Authorities, Atlantic City, N. J., May 21-22. Dr. Richard M. Olin, State Commissioner of Health, Lansing, Mich., Secretary.

Connecticut State Medical Society, New Haven, May 19-20. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Florida Medical Association, Gainesville, May 3-5. Dr. Shaler Richardson, 111 W. Adams Street, Jacksonville, Secretary.

Georgia, Medical Association of, Albany, May 12-15. Dr. A. H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.

Illinois State Medical Society, Champaign, May 18-20. Dr. H. M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, May 12-14. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Kansas City, May 4-6. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.

Maine Medical Association, Poland Springs, June 10-12. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Springfield, June 8-9. Dr. W. L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, Ann Arbor, Mich., June 8-9. Miss Harriet Wilson, 535 North Dearborn Street, Chicago, Secretary.

Minnesota State Medical Association, St. Paul, May 17-19. Dr. E. A. Meyerding, 11 W. Summit Avenue, St. Paul, Secretary.

Mississippi State Medical Association, [illegible] May 11-13. Dr. T. M. Dye, McWilliams [illegible]

Missouri State Med[illegible] May 17-20. Dr. E. J. Goodwin, 901 Mis[illegible] Secretary.

National Association [illegible] New York City, June 7-8. Dr. A. L. Shaw, [illegible] Y., Secretary.

Nebraska State Me[illegible] May 11-13. Dr. R. B. [illegible]

[illegible] Society, Concord, May 25-26. Dr. D. E. [illegible] Street, Concord, Secretary.

[illegible] Society of, Atlantic City, June 17-19. Dr. J. B. [illegible] Street, Newark, Secretary.

[illegible] Society, Albuquerque, May 19-21. Dr. C. M. Yater, [illegible] Avenue, Roswell, Secretary.

[illegible] Society of the State of, Wrightsville Beach, [illegible] McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Minot, May 25-26. Dr. A. J. McCannel, Minot, Secretary.

Ohio State Medical Association, Toledo, May 11-13. Mr. Don K. Martin, 131 E. State Street, Columbus, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, June 22-24. Dr. C. A. Thompson, 609 Barnes Building, Muskogee, Secretary.

Rhode Island Medical Society, Providence, June 3. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

South Dakota State Medical Association, Aberdeen, May 19-20. Dr John F. D. Cook, Langford, Secretary.

Tennessee State Med[illegible] is, May 11-13. Dr. J. F. [illegible] Secretary.

[illegible] May 24-27. Dr. Holman [illegible] Fort Worth, Secretary.

[illegible] Salt Lake City, May 6-8. Dr. F. B. [illegible] Lake City, Secretary.

[illegible] Association, Morgantown, May 25-27. Mr. S. O. Neale, 211 Smallridge Building, Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Gynecology, St. Louis

11: 147-286 (Feb.) 1926

*Nature of Chronic Appendicitis. A. E. Hertzler, Halstead, Kan.—p. 155.
Inversion of Uterus. L. E. Phaneuf, Boston.—p. 171.
Five Kinds of Chronic Appendicitis. R. T. Morris, New York.—p. 180.
Appendicitis in Pregnancy. G. D. Royston and A. O. Fisher, St. Louis.—p. 184.
*Prolapse of Placenta. M. P. Rucker, Richmond, Va.—p. 189.
*Treatment of Placenta Praevia Based on 303 Consecutive Cases. F. S. Kellogg, Boston.—p. 194.
Indications for Cesarean Section. B. Van Sweringen, Fort Wayne, Ind.—p. 201.
Occiput Posterior. P. W. Toombs, Memphis, Tenn.—p. 206.
Relation of Physiology and Mechanics to Management of Labor. W. A. Fowler, Oklahoma City.—p. 212.
*Preparation of External Genitalia for Delivery with Iodine-Alcohol. B. Lankford, Norfolk, Va.—p. 219.
*Treatment of Edema of Toxemia of Pregnancy with Ammonium Chloride. R. D. Mussey, Rochester, Minn.—p. 222.
*Intramuscular Injection of Magnesium Sulphate for Control of Convulsions in Eclampsia. L. Dorsett, St. Louis.—p. 227.
Prevention of Stillbirths. C. R. Hannah, Dallas, Texas.—p. 231.
Case of Mesenteric Cyst. E. D. Clark, Indianapolis.—p. 238.

Nature of Chronic Appendicitis.—Hertzler's opinions are based on an examination of more than 3,000 appendixes. He says: "Fibrotic changes in the appendix, no matter of what degree, are not attended by clinical symptoms. The anatomic structure of appendixes commonly removed under the diagnosis of chronic appendicitis shows no variation from the appendixes of individuals suffering from no abdominal complaint whatsoever. The minimal changes alleged to be present in cases of so-called chronic appendicitis are wholly inadequate to explain the symptoms ascribed to them considered in the light of like changes in other organs of the body. Mere alleged relief after the removal of the appendix of symptoms is not sufficient to prove that the appendix was the cause of the symptoms. The vast majority of patients so operated on do not even claim relief of their symptoms. The symptoms alleged to be due to chronic appendicitis can be relieved by searching out the actual cause and by removing it, relieving the patient without molesting the appendix."

Prolapse of Placenta.—Rucker relates the case of a septipara, aged 28, pregnant, who suddenly felt faint and began to bleed. She walked home, a distance of one-half mile, without difficulty. After getting home she began to have pains and the bleeding commenced again and continued until the placenta was expelled at 3 a. m. It was devoid of membranes, except at one edge where there was a little tag about 3 by 7 cm. The attachment of the cord was eccentric. The fetal surface of the placenta was smooth and glistening, and there were no torn blood vessels. The maternal surface was apparently intact. It was somewhat lobulated. There was an oval area about one fourth the total area of the placenta extending to the periphery that was distinctly darker and firmer than the rest of the organ. A dead baby was born fifty minutes later. It weighed 3,175 Gm. Ossification was complete. Nothing unusual was found at necropsy.

Treatment of Placenta Praevia.—Kellogg asserts that all central and partial praevias are best treated by low abdominal cesarean section, whether the baby is viable or nonviable, living or dead. Marginal praevia is best treated by Voorhees' bag induction. Moribund or very sick patients with placenta praevia should be rested, and bleeding controlled by necessary methods, including tight cervical and vaginal pack and pressure over and above the fundus; transfusion and operation should be done on pulse and pulse pressure reaction, and then retransfusion done. It should always be the effort to ascertain as nearly as possible how much blood has been lost and to replace that amount as nearly as possible. Hysterectomy following section should be practiced frequently, each case to be considered by itself on the following grounds: risk of sepsis from previous history, persistent bleeding following the section, and number of dependent children at home. If a woman has several, as is usually the case, hysterectomy seems to improve her chances, and should unhesitatingly be done.

Preparation of External Genitalia for Delivery.—Lankford regards the 3.5 per cent iodine-alcohol or the 4 per cent mercurochrome method of preparation of the genitalia for delivery a procedure that is safer than any yet advanced; each is simple and can be used by any one who will take the trouble to have the solutions prepared shortly before expected delivery. The iodine-alcohol method would seem to be the simpler of the two, as it can be used with effect as late as five minutes before delivery, whereas the use of mercurochrome is advised at least one hour before any operative procedure.

Ammonium Chloride in Toxemia of Pregnancy.—In these cases of edema of toxemia of pregnancy, Mussey gives ammonium chloride in 1.5 Gm. doses in gelatin coated capsules. Up to 10 Gm. is given daily, even after diuresis has been effected, and if possible until the edema disappears. Usually a total of from 50 to 100 Gm. of ammonium chloride was given. The patient is also kept in bed on a 1,500 calory diet containing 50 Gm. protein, with a minimum of salt, and 800 cc. of fluid. Following the disappearance of the edema, the fluid intake was increased.

Control of Convulsions.—The intramuscular injection of magnesium sulphate, in 15 cc. doses, Dorsett says, will control the convulsions of eclampsia and decreases the intracranial pressure by relieving the cerebral edema, stimulates diuresis, and aids in the diminution of the general edema. He uses a triple crystallized sterile, nonanhydrous solution, put up in 15 cc. ampules. The frequency of administration is regulated entirely by the frequency and severity of the convulsions and the general condition of the patient. There has as yet been no respiratory disturbance of any kind. Several of the patients have received as high as 100 cc. of the drug within twenty hours without any perceptible reaction.

Arkansas Medical Society Journal, Little Rock

22: 203-215 (Feb.) 1926

Complicated Tonsillectomies. R. H. T. Mann, Texarkana.—p. 203.
Differential Diagnosis of Early Pulmonary Tuberculosis and Early Thyrotoxicosis. S. J. Wolfermann, Fort Smith.—p. 204.
Model Technician. T. Wenzel, Little Rock.—p. 207.

Atlantic Medical Journal, Harrisburg, Pa.

29: *283-362* (Feb.) *1926*

Prevention of Heart Disease. A. Lambert, New York.—p. 283.
Present Status of Function Tests of Liver. W. J. Fetter, Pittsburgh.—p. 289.
Roentgen-Ray Diagnosis of Diseases of Liver and Gallbladder. G. W. Grier, Pittsburgh.—p. 293.
Significance of Bile Pigment. W. W. G. Maclachlan, Pittsburgh.—p. 297.
Dangers of Common Cold in New-Born. H. T. Price, Pittsburgh.—p. 301.
Pneumonia with Delayed Resolution in Infants and Children. H. T. Price, Pittsburgh.—p. 302.
Treatment of Acute Empyema. R. E. Davison, Pittsburgh.—p. 304.
Accidental Inhalation of Zinc Stearate Dusting Powders. R. H. Middleton, Pittsburgh.—p. 307.
Posttonsillectomic Pulmonary Abscess. C. Jackson, Philadelphia.—p. 309.
Anatomy and Etiology of Lateral Sinus Thrombosis. J. A. Babbitt, Philadelphia.—p. 315.
Pathology, Diagnosis and Differential Diagnosis of Lateral Sinus Thrombosis. J. C. Keeler, Philadelphia.—p. 318.
Treatment of Lateral Sinus Thrombosis. C. C. Eves, Philadelphia.—p. 321.
Stomatologic-Medical and Dental-Autonomous Plans of Education for Dentists. A. J. Asgis, New York.—p. 325.

California and Western Medicine, San Francisco

24: 145-288 (Feb.) 1926

*Prophylaxis and Treatment of Wound Infections by Modern Methods. K. F. Meyer, San Francisco.—p. 177.
*Changes in Blood Serum Calcium Following Administration of Parathyroid Extract. J. W. Sherill and E. F. F. Copp, La Jolla, Calif.—p. 183.
Fifty Cases of Diabetes Treated with Insulin. B. E. Grant, Los Angeles.—p. 188.

Chronic Ulcerative Colitis. M. S. Wolf, San Francisco.—p. 191.
Laminectomy and Removal of Spinal Cord Tumors under Local Anesthesia. E. B. Towne, San Francisco.—p. 194.
Tuberculous Cecal Tumor. C. A. Johnson, Los Angeles.—p. 198.
Questionable Operations and Technic. F. A. Rhodes, Los Angeles.—p. 200.
Nasal (Sphenopalatine-Meckel's) Ganglion Neuroses. L. K. Gundrum, Los Angeles.—p. 204.
Rôle of Cesarean Section in Treatment of Eclampsia. J. C. Irwin, Los Angeles.—p. 208.
Industrial Hernia Versus Seminal Vesiculitis and Vasitis. M. B. Wesson, San Francisco.—p. 212.

Tetanus and Gas Gangrene.—The prophylaxis of tetanus and gas gangrene is discussed by Meyer, 148 cases occurring in California between June, 1922, and March, 1925, forming the basis of his study. Nineteen of these were cases of tetanus neonatorum, suggesting that a primitive type of delivery is still practiced in certain strata of the population. Vaccination was followed by two cases of tetanus; eight were postoperative cases of tetanus. As very few instances of catgut infection have been proved, Meyer says it is more reasonable to suspect the intestinal canal of the patient himself as the source of the postoperative tetanus. Since it is now definitely established that tetanus spores or any other gas gangrene producing anaerobe ingested on raw vegetables may multiply in the intestinal tract and remain there in large numbers, the surgeon should fully appreciate this insidious source of wound infection before he suspects his surgical instruments, sutures and dressings. It is not unlikely that many of the postoperative anaerobic infections are from within, e. g., the intestinal canal of the patient and not from without. These data, as a whole, emphasize anew the well known fact that relatively trivial injuries may lead to tetanus. The most deplorable condition which was recognized from the analysis of the data is the fact that only three, possibly four, people who received puncture wounds, lacerations, contusions, or compound fractures of the type considered most liable to tetanus infection had the benefit of a prophylactic injection of antitoxin. The majority of the patients involved in this series never consulted a physician, and either ignored the injuries or treated them by unknown remedies. On the other hand, at least five physicians failed to give antitoxin, although the character of the injury (compound fracture, deep nail puncture) should have aroused suspicion of the possible consequences. Furthermore, the prophylactic treatment was not conducted in accordance with established practice, and, Meyer says, one is forced to conclude that those responsible were not familiar with the basic principles of the prevention of tetanus.

Blood Changes Effected by Parathyroid Extract.—Sherill and Copp report the changes in blood serum calcium, coagulation time and red cell volume in various types of clinical conditions, such as arthritis, paralysis agitans, hemophilia, mental deficiency with convulsions, epilepsy, gastric ulcer, neurosis and purpura hemorrhagica resulting from the administration of parathyroid extract. The serum calcium was increased in amount, and the coagulation time reduced.

Canadian Medical Association Journal, Montreal

16: 121-212 (Feb.) 1926

Epigastric Distress: Functional Causes and Treatment. A. McPhedran, Toronto.—p. 121.
Carcinoma of Large Bowel. F. A. C. Scrimger, Montreal.—p. 125.
Cases of Pyrexia without Physical Signs. T. Horder.—p. 130.
Atomic Processes of Disease. E. McDonald, Philadelphia.—p. 136.
Scleroderma: Treatment by Radium. H. Mackay, Manitoba.—p. 142.
Primary Repair of Injuries to Parotid Duct. F. J. Tees, Montreal.—p. 145.
Significance of Hematuria. J. C. McClelland, Toronto.—p. 147.
*"Gassy Indigestion": Significance as Symptom of Gallbladder Disease. A. R. Campbell, Yarmouth, N. S.—p. 151.
Essential Thrombocytopenic Purpura Hemorrhagica: Splenectomy. C. G. Geggie, Edmonton.—p. 155.
Pyemia After Scarlet Fever. H. B. Cushing, Montreal.—p. 157.
*Effect of Two Different Preparations of Iodine on Preoperative Basal Metabolic Rate in Exophthalmic Goiter. R. R. Fitzgerald, Montreal.—p. 159.
Clinical Study of Colloidal Benzoin Reaction. W. R. Jaffey, Hamilton.—p. 161.
Profuse Hemoptysis Arising from Small Area of Bronchiectasis Followed by Brain Abscess. A. T. Henderson, Montreal.—p. 165.
Case of Acute Lymphatic Leukemia: Death in Five Weeks. L. J. Breslin, Toronto.—p. 167.
Abscess of Lung: Case in Infant 24 Days of Age. R. R. Struthers, Montreal.—p. 168.
Abortion of One Twin: Delivery of Second at Term. M. G. Burris, Halifax.—p. 170.
Fracture of Semilunar Bone Due to Indirect Violence. J. H. Palmer, Rossland.—p. 170.
Mechanism of Pigment Formation in Skin. J. F. Burgess.—p. 171.
Recent Advances in Hematology. I. Origin of Red Blood Cell in Adult Marrow. E. S. Mills.—p. 174.

Gassy Indigestion.—The common complaints of "gassy indigestion" and "spells with the heart" in middle aged and elderly women, according to Campbell, are generally due to chronic inflammation of the gallbladder and appendix. Gallstones are not always present and are not essential to the development of the complex. Removing the gallbladder does not in these cases interfere with the function of the biliary system. The best treatment is to remove the gallbladder and appendix at the same time. The mortality of this procedure is low, and the results wonderfully satisfactory in that the patient can afterward eat ordinary food and be comfortable.

Lowering Basal Metabolic Rate by Iodine.—Fitzgerald compares the effectiveness of compound solution of potassium iodide in lowering the preoperative basal metabolic rate in cases of exophthalmic goiter with that of resublimed iodine given in solution in dilute hydriodic acid. Lowering of the basal metabolic rate was effected in nearly all cases, irrespective of the kind of iodine used. The two methods of treatment produced practically the same diminution in the basal metabolic rate and in about the same length of time. It was found necessary to give four times as much resublimed iodine as compound solution of potassium iodide to produce the same clinical results.

Florida Medical Association Journal, St. Augustine and Jacksonville

12: 205-222 (Feb.) 1926

Comparison of Kolmer Quantitative Test with Routine Wassermann. H. R. Mills, Tampa.—p. 205.
Periodontia. C. J. Masters, Jacksonville.—p. 207.
Five Thousand Nonsurgical Drainages of Biliary Tract. G. M. Niles, Atlanta, Ga.—p. 209.
Public Health Laboratory Examinations and Their Limitations. J. R. Bean, Jacksonville.—p. 211.
Smallpox. B. L. Arms, Jacksonville.—p. 215.

Johns Hopkins Hospital Bulletin, Baltimore

38: 83-162 (Feb.) 1926

*Pulmonary Tuberculosis and Pregnancy. E. W. Bridgman and V. Norwood, Baltimore.—p. 83.
Effects of Liver Extracts in Hypertension Produced by Guanidine Compounds. R. H. Major, O. O. Stoland and C. R. Buikstra, Kansas City, Kan.—p. 112.
Experimental Production of Annular Ligaments, as Example of Influence of Function on Differentiation of Connective Tissue. O. V. Batson and M. M. Zinninger, Cincinnati.—p. 124.
*Experimental Production of Premature Separation of Placenta. J. Hofbauer and E. M. K. Geiling, Baltimore.—p. 143.
Bacillus Bronchisepticus Infection in Child with Symptoms of Pertussis. J. H. Brown, Baltimore.—p. 147.

Pulmonary Tuberculosis and Pregnancy.—Among the first 14,000 histories of the indoor obstetric service of Johns Hopkins Hospital reviewed by Bridgman and Norwood, 134 patients were grouped as having pulmonary tuberculosis in one or more of its various forms. In fifty cases the diagnosis of tuberculosis was questionable. In seventeen cases the history and signs pointed conclusively to the diagnosis of pulmonary tuberculosis in an inactive stage at the time of delivery. There were seventeen cases of clinically definite pulmonary tuberculosis, inactive at the time of delivery and thirty-one patients who had active tuberculosis during pregnancy and at the time of delivery. There were twelve cases of active tuberculosis in which a therapeutic abortion was done, and seven cases of inactive tuberculosis with therapeutic abortion. In nineteen cases pregnancy was associated with tuberculosis and some other disease, syphilis in ten instances. As to what shall be done in the case of a pregnant woman in whom tuberculosis is found, Bridgman and Norwood are emphatic in stating their position of treating the tuberculosis to the uttermost, disregarding the pregnancy, and prescribing rest and more rest, preferably in a sanatorium, and under those whose life's business is the treatment of tuberculosis. Artificial termination of pregnancy is not indicated, and in this series has led to a somewhat worse outcome. On the other hand, a later sterilization is an entirely different matter

—to be done at some period after the patient has been through her pregnancy, and the tuberculosis has become quiescent. It is obviously not right to allow a tuberculous mother to be subjected to repeated pregnancies with repeated recrudescences of an old lesion. The use of tubal sterilization seems, in general, to be the most satisfactory procedure, but even such operative measures should be adopted only after a consultation between obstetrician and practitioner, and then only if they agree that in the individual patient future pregnancies are contraindicated.

Experimental Premature Separation of Placenta.—An experimental premature separation of the placenta was effected by Hofbauer and Geiling by injecting histamine intravenously or intracardially, into pregnant guinea-pigs and cats. A noteworthy phenomenon was observed in the uterine mucosa, namely, a conspicuous hemorrhage extending along the course of the blood vessels, while the uterine glands adjacent to the placenta were filled with fresh blood, which in places lifted up the epithelial covering of the uterine mucosa. Within the uterine wall the occurrence of a marked edema, spreading apart the muscle bundles, was a striking feature. In the guinea-pig, as well as in the cat, the occurrence of thrombi in the veins of the decidua and of other organs, especially the liver, could be demonstrated. In some experiments the abdominal cavity contained a variable amount of free fluid, which was highly conspicuous in a few instances. The changes encountered in the livers of the cats aroused special interest, peripheral necrosis and stagnation of the bile being the most prominent features. The results obtained are in harmony with the recent tendency pointing to the association of the placenta with a toxemic process, and indicate that a sudden access of histamine to the circulation of the pregnant woman might well account for the sudden appearance of the accident in question with its traits of alarming symptoms.

Journal of Comparative Neurology, Philadelphia

40: 1-251 (Feb) 1926

Studies on Muscle Tonus I Contractile and Plastic Factors in Decerebrate Rigidity. S W. Ranson, St. Louis—p 1.
Id II Comparison of Synapse Blocking Action of Nicotine and Chloral Hydrate. S. W. Ranson, St. Louis—p 15
Id III. Sublaminal Injection of Chloral Hydrate in Decerebrated Cats. S W. Ranson, St. Louis—p. 23
Regeneration of Gustatory Apparatus in Rat. B. Whiteside, St. Louis.—p. 33.
Correlated Anatomic and Physiologic Studies of Growth of Nervous System of Amphibia. G E. Coghill, Lawrence, Kan—p 47.
Thalmic and Tectal Nuclei and Fiber Paths in Brain of American Alligator. G. C. Huber and E C. Crosby, Ann Arbor, Mich—p. 97.
Nonbifurcating Nerve Fibers of Trigeminal Nerve. W. F. Windle, Chicago—p. 229.
Relations Between Central and Peripheral Coordination. P. Weiss, Vienna—p. 241.

Journal of Infectious Diseases, Chicago

38: 101-192 (Feb) 1926

Viability and Toxicogenic Power of Small Numbers of Spores of Clostridium Botulinum Subjected to Different Temperatures. W. A. Starin, Chicago—p 101
*Relationship of Incubation Temperature to Viability, Rate of Growth and Toxin Production of Clostridium Botulinum in Different Vegetables W. A. Starin, Chicago—p 106
*Pulmonary Infections by Friedlander's Bacillus. W. P. Belk, Philadelphia—p. 115.
*Germicidal Properties of Soap J. E. Walker, Hot Springs, Ark—p 127.
Biologic Significance of Soluble Specific Substances of Pneumococci. L D. Felton and G H Bailey, Boston—p 131.
Specific Precipitates Obtained from Antipneumococcus Serum and Antibody Solution by Soluble Specific Substances of Pneumococci L. D. Felton and G H. Bailey, Boston—p. 145.
*Influence of Some Anaerobic Species on Toxin of Clostridium Botulinum: Special Reference to Clostridium Sporogenes M. Dack, Chicago—p 165.
*Behavior of Botulinum Toxin in Alimentary Tract of Rats and Guinea-Pigs G M Dack, Chicago—p 174
Studies on Respiratory Diseases XXVII Electrophoretic Potential, Acid and Serum Agglutination of Pneumococci I S Falk and M. A Jacobson, Chicago—p 182.
Id XXVIII Electrophoretic Potentials, Dissolution and Serum Agglutination of Pneumococci in Presence of Sodium Oleate. I. S Falk and M. A. Jacobson, Chicago—p. 188

Effect of Temperature on Clostridium Botulinum.—As to the effect of temperature on *Clostridium botulinum*, Starin says that death of the organism does not occur at any temperature used, even after three months' incubation. Even in those mediums in which no evidence of growth or toxin production could be detected, transplants to a suitable medium, such as beef heart, resulted in abundant growth of the organism with normal toxin production. Disintegration of the medium parallels the production of toxin, although in some instances lethal doses of toxin may be present with practically no noticeable changes in the gross appearance or in the odor The four vegetables used ranked as follows in the rate of toxin production, and in the quantity of toxin produced corn, peas, string beans, spinach. The high initial acidity of the beans and spinach may be the responsible factor for the slight growth and toxin production in these mediums

Pneumonia Caused by Bacillus Mucosus.—Eighteen cases of infection of the lung by *B. mucosus* were studied by Belk, and a provisional report is made of a chronic pulmonary lesion caused by this organism Six cases of lobar pneumonia due to *B mucosus* are reported in detail, with references to thirty-eight cases recorded in the literature.

Germicidal Properties of Soap.—Walker summarizes his study as follows the meningococcus is killed in two and a half minutes by N/80 to N/640 solutions (0 4 per cent to 0 04 per cent) of the soaps of the fatty acids ordinarily present in soap bases; 1 per cent phenol is required to kill under the same condition The gonococcus is killed in two minutes by N/640 to N/5120 solutions (0.04 per cent to 0 006 per cent) of the same soaps, 0 5 per cent phenol killed under the same condition Sodium resinate also possesses marked germicidal activity toward these two organisms. The meningococcus, on being tested with four commercial soaps, showed approximately the same degree of susceptibility as would have been anticipated from the action of the chemically pure soaps The susceptibility of meningococci and gonococci is such that they (along with streptococci, pneumococci and diphtheria bacilli) will be killed readily by any ordinary soap used with a reasonable degree of care The dysentery bacilli and paratyphoid bacilli react to the different soaps in the same manner as previously shown for typhoid and colon bacilli that is, they are killed by moderate concentrations of the soaps of the saturated acids, but are completely resistant to the soaps of the unsaturated acids at ordinary temperatures. The most readily available soap to be used against the typhoid bacilli, paratyphoid bacilli and dysentery bacilli is salt water soap prepared exclusively from coconut oil.

Influence of Anaerobes on Botulinum Toxin.—Dack found that the filtered toxin of *Clostridium botulinum* added to beef heart medium is gradually destroyed by the growth of *Clostridium sporogenes* in it. The power to destroy botulinum toxin is also possessed by several other anaerobic species with proteolytic and nonproteolytic properties. The destruction of the toxin is not due to a change in hydrogen ion concentration

Behavior of Botulinum Toxin in Alimentary Tract.—Botulinum toxin when mixed with stomach tissue and abdominal wall tissue from guinea-pigs and mice in vitro and incubated at 35 C for one hour, Dack says, was not reduced in potency, except in two cases in which mouse stomachs were used The reduction, however, was slight in these cases. Botulinum toxin was not completely destroyed in the stomachs and small intestines of rats and guinea-pigs receiving injections of the toxin directly into the stomach. Its presence was definitely demonstrated after twelve hours in guinea-pigs and after three hours in rats. In two cases out of seven toxin was demonstrated in the blood of guinea-pigs fed with botulinum toxin No toxin was found in the blood of rats fed with large doses of botulinum toxin. Toxin was found in the blood of rats and guinea-pigs three hours after intravenous and mesenteric injections of the toxin.

Journal of Laboratory and Clinical Medicine, St. Louis

11: 405 502 (Feb.) 1926

*Some Relations Between Concentration of Blood Corpuscles in Venous and Capillary Blood and Blood Pressure of Diabetic Patients. H. F. Root and R. R White, Boston.—p. 405.
*Separation of Internal Secretion of Parathyroid Glands. L. Berman, New York—p 412.

Anticomplementary Reaction of Blood Serum or of Spinal Fluid. A. H. Sanford, Rochester, Minn.—p. 413.
*Standardized Wassermann Report. A. J. Casselman, Camden, N. J. —p. 421.
Present Status of Kolmer's Complement-Fixation Test for Syphilis. R. A. Kilduffe, Atlantic City, N. J.—p. 425.
*Comparison of Results with Kolmer-Wassermann Methods and Kahn Precipitation Test. R. G. Owen and H. E. Cope, Detroit.—p. 432.
*Kahn Precipitation Test as Compared with Kolmer Complement-Fixation Test. A. S. Giordano, South Bend, Ind.—p. 435.
*Clinical Study of Kahn Precipitation Test and Kolmer Complement-Fixation Test. R. L. Kelly, Philadelphia.—p. 437.
New Modification of Meinicke Test. A. P. Saunders, Chicago.—p. 445.
*Pharmacology of Benzyl Alcohol and Its Esters. VI. Effect of Sodium Succinate "Benzycin" and Sodium Dibenzyl Phosphate "Benzyphos" on Blood Pressure in Arterial Hypertension. C. M. Gruber, St. Louis. —p. 451.
*Intestinal Obstruction and Pernicious Anemia: Case. R. L. Haden, Kansas City, Mo.—p. 454.
Use of Raw and Inactivated Serums in Flocculation Test for Syphilis. C. B. McGlumphy and W. W. Brandes, Chicago.—p. 459.
Method for Measuring Surface Tension Changes of Pure and Biologic Fluids. F. de Eds, San Francisco.—p. 464.
Studies in Local Anesthesia. IV. Pharmacology of Some Para-Amino-Benzoate Compounds. W. R. Meeker, Chicago.—p. 468.
Local Tissue Reactions. W. R. Meeker, Chicago.—p. 474.
Studies in Local Anesthesia. V. Toxicity of Para-Amino-Benzoate Compounds. H. McGuigan and G. A. Brough, Chicago.—p. 479.
Phenolic Coefficient. M. B. Burns and N. Bullock, Chicago.—p. 482.
Filtering Cylinder and Culture Tube for Bacteriologic Work. E. Ablahadian, Glendale, Calif.—p. 483.

Concentration of Blood Corpuscles in Diabetes.—The relative concentration of corpuscles in capillary and venous blood of twenty-seven diabetic patients in the morning and evening is compared by Root and White. Variations in arterial tension between these periods do not correlate constantly with any change in the corpuscle concentration. In certain patients, with high diastolic blood pressure, the capillary red cell count was higher than the venous red cell count at night but lower in the morning. This reversed relation suggests capillary stasis at the end of the day and was more marked in patients with obvious vascular disease. Increases in venous pressure produce the contrary effect; namely, high venous count and low capillary count.

Internal Secretion of Parathyroids.—Aqueous acidic solutions of a calcium mobilizing substance of the parathyroids of oxen were used by Berman to determine their effects on parathyroidectomized dogs, cats and white rats. The results show that protein-lipin-free solutions made by extraction of parathyroid glands with alcoholic solutions of acid (which were first used) or with aqueous solutions of acid (which were used immediately after the extractive efficacy of alcoholic solutions of acid had been established) will prevent or relieve the known cardinal effects following removal of the parathyroids, namely, the retention of phosphate, the decrease of blood calcium, the increase in electrical irritability of the nerves, the muscular hyperirritability and the various other symptoms. These results established the presence in the extracts of an internal secretion of the parathyroids since all the other criteria of substitution therapy are satisfied.

Standardized Wassermann Report.—Casselman aims to induce laboratory workers to state the results of their Wassermann tests in simpler language which will be better appreciated by clinicians.

Comparison of Kolmer-Wassermann and Kahn Tests.—Examining 1,600 serums with both these tests, Owen and Cope obtained a practical check in 93.8 per cent of the cases. The divergence between the two tests lies almost wholly among the treated patients.

Comparison of Kolmer and Kahn Tests.—Giordano asserts that the two tests run parallel in about 96 per cent of the serums. Both tests occasionally render a false negative which is usually picked up by one or the other when the two tests are run parallel.

Comparison of Kahn and Kolmer Tests.—In tests done by Kelly in 110 cases, a concordance of results was found in 105, or 95.45 per cent. There is no convincing evidence that a positive reaction occurred with the Kahn or Kolmer test, which was inconsistent with clinical or other serologic findings.

Pharmacology of Benzyl Alcohol and Its Esters.—Observations made by Gruber on animals showed that sodium benzyl succinate caused a rise in blood pressure in 67 per cent of the injections and sodium dibenzyl phosphate in 35 per cent of the cases; that the heart is slowed in many cases, in others markedly accelerated, and that sodium dibenzyl phosphate causes a precipitate in the presence of calcium salts. Hence, it would seem inadvisable to use these drugs in arterial hypertension. Intravenous administration of the latter drug, Gruber says, would certainly not be wise.

Intestinal Obstruction and Pernicious Anemia.—A case of clinically typical pernicious anemia occurring with a malignant obstruction of the duodenum and colon is reported by Haden. The findings in this case are said to be further evidence of the intestinal origin of pernicious anemia.

Laryngoscope, St. Louis

36: 79-156 (Feb.) 1926

Problem of Tracheobronchoscopy and Esophagoscopy. T. Matsui, Mukden, Manchuria.—p. 79.
Lateral Sinus Thrombosis: Cases. J. W. White, Norfolk, Va.—p. 96.
Satisfactory Mastoid Bandage. L. Richards, Boston.—p. 117.
Puncture of Maxillary Sinus. S. L. Ruskin, New York.—p. 119.
Hyperplastic Maxillary Sinusitis. W. Mithoefer, Cincinnati.—p. 137.
Adenoidoscope. J. B. H. Waring, Blanchester, Ohio.—p. 147.

Medical Journal and Record, New York

123: 282-344 (March 3) 1926

*Study of Four Hundred and One Patients with Cardiovalvular Defects. D. Perla, New York.—p. 282.
European School Hygiene. E. A. Tracy, Boston.—p. 284.
Need of Psycho-Analytic Clinics and Institutes in America. L. P. Clark, New York.—p. 287.
Fallibility of Intradermal Tests with Grasses in Chronic Perennial Bronchial Asthma: Hypodermic Tests. I. S. Kahn and E. M. Grothaus, San Antonio, Texas.—p. 290.
Use of Sodium Iodide Intravenously in Infections and Allergies. J. W. Wiltsie, Binghampton, N. Y.—p. 296.
Inheritance and Medicolegal Application of Blood Group. J. A. Buchanan, Brooklyn.—p. 299.
Diagnosis and Treatment of Seasonal Hay-Fever. A. Brown, New York. —p. 301.
Value of Duodenal Tube to Surgeon in Postoperative Treatment of Certain Cases of Gastro-Enterostomy. W. Meyer, New York.—p. 304.
Treatment of Neurosyphilis with Tryparsamide. P. A. O'Leary and S. W. Becker, Rochester, Minn.—p. 305.
General Pathology of Syphilis in Primary Phase. J. Golay, Geneva, Switzerland.—p. 308.
Dactylitis Syphilitica. D. W. Montgomery and G. D. Culver, San Francisco.—p. 314.
Neurosyphilis: Diagnosis and Treatment by General Practitioner. H. V. Pike, Danville, Pa.—p. 316.
Pollen Filter. M. B. Cohen, Cleveland.—p. 322.
Rare Mishap in Litholapaxy. L. Neuwelt, New York.—p. 323.
Ancient and Modern Medical Heresies. J. Wright, Pleasantville.—p. 324.
David Hayes Agnew. J. B. Deaver, Philadelphia.—p. 327.

Analysis of Cardiovalvular Cases.—Sixteen, or 3.9 per cent, of the 401 cases analyzed by Perla were attributable to syphilitic infection; 199, or 49.8 per cent, to rheumatic infections, and in 186 cases, or 46.3 per cent, the exact etiologic factors could not be determined. The nature of the lesion was: pure aortic insufficiency, 3.7 per cent; combined mitral and aortic disease, 24.4 per cent; mitral disease, 71.9 per cent; patients with aortic insufficiency alone or combined with other lesions, 113. Auricular fibrillation occurred in 112 cases. Of these, 78 per cent were in the rheumatic group, 20 per cent in the undetermined group and 1.5 per cent in the syphilitic group. Fifty-seven per cent of all cases of auricular fibrillation occurred in mitral stenosis. A palpable spleen was found in 12 per cent of all cases. The duration of life from the time of onset is longest if the disease is acquired under 20. A defect of the valves is not disease of the heart.

Minnesota Medicine, St. Paul

9: 56-104 (Feb.) 1926

Character and Relationship of Criminality, Delinquency and Feeblemindedness. R. M. Phelps, St. Peter.—p. 55.
Asexualization: Remedy for Crime and Criminality. K. H. James, Mankato.—p. 59.
Antituberculosis Work Is Winning. H. L. Taylor, St. Paul.—p. 62.
Roentgen-Ray Studies of Intestinal Tuberculosis. N. H. Blakie and A. T. Laird, Nopeming.—p. 66.
Pulmonary Circulation. F. H. Scott, Minneapolis.—p. 71.
Chronic Backache from Orthopedic Standpoint. J. R. Kuth, Duluth. —p. 76.
Mistaken Diagnosis of Acute Appendicitis. B. J. Gallagher, Wasea. —p. 79.
Therapeutic Value of Roentgen Rays. A. U. Desjardins, Rochester. —p. 82.
Calcium Lactate as Preventive in Migraine C. E. Riggs, St. Paul. —p. 87.

New Jersey State Medical Society Journal, Orange

23: 61-108 (Feb.) 1926

Taxation: Effects on Present Day Estates. L. G. McDonall, Newark. —p. 61.
Periodic Examination of Apparently Healthy. C. R. O'Crowley, Newark.—p. 66.
Treatment of Angioneurotic Edema. W. C. Menninger, Topeka, Kan. —p. 68.
Isolation Hospital. C. V. Craster, Newark.—p. 71.
Psychologic Examining as Applied to Feebleminded. D. M. Bassett, Vineland.—p. 74.

New York State Journal of Medicine, New York

26: 127-172 (Feb. 15) 1926

Renal and Ureteral Calculi. E. F. Kilbane, New York.—p. 127.
Elective Version and Extraction. P. T. Harper, Albany.—p. 134.
Pyloric Obstruction in Infancy. T. Wright, Buffalo.—p. 143.
Some Inconsistencies in Public Health Law and Difficulties in Administering It. M. Nicoll, Jr., Albany.—p. 148.

Oklahoma State Medical Association Journal, Muskogee

19: 30-57 (Feb.) 1926

Anatomy and Physiology of Semicircular Canals. T. G. Wails, Oklahoma City.—p. 30.
Mesenteric Vascular Occlusion. A. Cowles, Ardmore.—p. 33.
Focal Infection. L. C. Kuyrkendall, McAlester.—p. 35.
Mind Diseased. A. L. Stocks, Muskogee.—p. 38.
It Can Be Done. C. Pluckett, Oklahoma City.—p. 42.

Public Health Journal, Toronto

27: 51-100 (Feb.) 1926

Smallpox Among Indians of Canada. J. J. Haegerty.—p. 51.
Immunization Against Diphtheria with Diphtheria Toxoid (Anatoxine Ramon). R. George.—p. 61.
Hieronymus Fracastorius de Contagionibus, Morbisque Contagiosis et Eorum Curatione, Libri Tres. W. R. Riddell.—p. 65.
Combining of Health and Accident Services by Industry. A. R. White. —p. 76.
Mental Disease in Relation to Crime. C. B. Farrar.—p. 83.

South Carolina Medical Association Journal, Greenville

22: 25-51 (Feb.) 1926

Disease and Foreign Bodies in Air and Food Passages. E. W. Carpenter, Greenville.—p. 27.
Bronchial Asthma. O. B. Mayer, Columbia.—p. 28.
Some Pertinent "Don'ts" in Venereal Practice. M. H. Wyman, Columbia.—p. 32.
Placenta Praevia. D. H. Smith, Glenn Springs.—p. 36.

Texas State Journal of Medicine, Fort Worth

21: 575-632 (Feb.) 1926

Acidosis and Insulin. F. D. Garrett; El Paso.—p. 590.
Present Status of Insulin. C. T. Stone, Galveston.—p. 591.
Peptic Ulcer. K. H. Beall, Fort Worth.—p. 595.
Need for More Intelligent Cooperation Between Internist and Surgeon in Treatment of Chronic Peptic Ulcer. W. B. Russ, San Antonio. —p. 597.
Roentgenologic Diagnosis of Peptic Ulcer. R. D. Carman, Rochester, Minn.—p. 599.
Medical Practice Act of Texas, Just and Necessary Law. T. J. Crowe, Dallas.—p. 606.

Southwestern Medicine, Phoenix, Ariz.

10: 45-92 (Feb.) 1926

Chest Surgery: Thoracoplasty in Tuberculosis. C. E. Yount, Prescott, Ariz.—p. 45.
Atypical Mastoiditis: Three Cases. J. J. McLoone, Phoenix.—p. 50.
Tularemia. M. B. Culpepper, Carlsbad.—p. 55.
Nonsurgical Drainage of Gall Tract from Standpoint of Surgeon. G. E. Goodrich, Phoenix.—p. 58.
Surgical Treatment of Chronic Headache and Pain in Head. E. R. Carpenter, Dallas.—p. 61.
Anesthesia and Analgesia in Obstetrics. H. A. Reese, Yuma, Ariz. —p. 64.
Use of English Language in Medicine. E. C. Prentiss, El Paso.—p. 66.
Thoracoplasty. F. P. Miller, El Paso.—p. 68.
Large Nasal Polypus. B. E. Galloway, Aguascalientes, Mexico.—p. 70.

Virginia Medical Monthly, Richmond

52: 687-754 (Feb.) 1926

Individual Preventive Medicine. W. T. Vaughan, Richmond.—p. 687.
Helpful Point in Technic of Appendectomy. C. R. Robins, Richmond. —p. 691.
Weight of Some Vital Organs—Their Development, Variability and Relation to Disease. R. B. Bean, University.—p. 692.
Complications of Pulmonary Tuberculosis. H. G. Carter, Burkeville. —p. 697.
Some Aspects of Mouth Troubles. J. S. Davies, University.—p. 699.
Carbohydrates in Nondiabetic Acidosis. A. H. Hoge, Bluefield, W. Va. —p. 702.
Megalo-Ureter. J. F. Geisinger, Richmond.—p. 707.
Medical Treatment of Some Pelvic Diseases Most Commonly Met. R. H. Woolling, Pulaski.—p. 711.
Etiology and Diagnosis of Acute Pelvic Diseases. W. C. Caudill, Pearisburg.—p. 713.
Clinical Pathology as Applied to Pelvic Diseases. L. D. Keyser, Roanoke.—p. 715.
Use of Roentgen Ray and Ultraviolet Light in Treatment of Nonmalignant Conditions of Skin. T. W. Murrell, Richmond.—p. 720.
Business Side of Practice of Medicine. A. McLeor, Glen Allen.—p. 723.
Convulsions Following Thyroidectomy: Case. W. R. Payne, Newport News.—p. 725.
Health Status of Preschool Children of Virginia. E. Gardner, Richmond.—p. 727.
Corneal Ulcer: Treatment. R. S. Lamb, Washington, D. C.—p. 728.
Peritonsillar Abscess. J. B. H. Waring, Blanchester, Ohio.—p. 730.
Gynecologic Surgery—Radical or Conservative? G. F. Douglas, Birmingham, Ala.—p. 731.
Achievements of American Medical Association. W. C. Phillips, New York.—p. 734.

West Virginia Medical Journal, Charleston

22: 57-12 (Feb.) 1926

Dietary Treatment of Nondiabetic Acidosis. A. H. Hoge, Bluefield. —p. 57.
Significance of Term Biliousness. D. VanderHoof, Richmond, Va. —p. 66.
Some Common Disorders of Digestive Tract. J. W. Preston, Roanoke, Va.—p. 70.
Acute Abdomen: Diagnosis. H. B. Luttrell and P. R. Fox, Bramwell. —p. 75.
Roentgen-Ray Study of Bone Lesions: Tumors. M. Kahn, Baltimore. —p. 79.
Sarcoma of Choroid. R. A. Tomassene, Wheeling.—p. 82.
Fractures of Upper Third of Humerus. E. B. Henson, Charleston. —p. 83.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Disease in Childhood, London

1: 1-62 (Feb.) 1926

*Hepatic Cirrhosis in Children: Biliary Forms. F. J. Poynton and W. G. Wyllie—p. 1.
*Epinephrine in Severe Rheumatic Heart Block. G. A. Sutherland.—p. 21.
Deformity of Pes Cavus. A. S. B. Bankart.—p. 26.
*Incidence of Rickets in London Hospital Outpatient Department. W. P. T. Atkinson, H. Mackay, W. L. Kinnear and H. F. Shaw. —p. 30.
Rickets in Infancy. H. Mackay.—p. 33.
*Rickets: Incidence in London. D. Patterson and R. Darby.—p. 36.
*Purpura Hemorrhagica. B. Williamson.—p. 39.
*Ketonuria and Urinary Acidity. K. H. Tallerman.—p. 50.
*Four Cases of Immunotransfusion. E. I. Lloyd and B. E. Schlesinger. —p. 54.
Measures in Infant Feeding. G. A. Harrison and H. Thursfield.—p. 58.

Liver Cirrhosis in Children.—Four cases are recorded by Poynton and Wyllie. One was that of a girl, aged 9, with intermittent jaundice, epistaxis and hematemesis, most likely a case of portal cirrhosis, associated with tuberculosis, possibly mesenteric, and without congenital predisposition. Two other patients, brother and sister, had enlargement of the abdomen from birth and very little jaundice, probably a form of hypertrophic cirrhosis, similar to the sclérose sans ictère described by Hayem. The authors think that this cirrhosis is of portal rather than of biliary origin. These two cases are specially interesting owing to the rarity of a familial occurrence of the portal type as compared with the biliary form of hepatic cirrhosis. In the fourth case, the size and hardness of the liver, and the duration of the jaundice (eight weeks) were unusual. Also, outbreak of fever, with the rapid and great enlargement of the spleen, as a late event, are unusual features in the catarrhal jaundice of childhood. The remarkable subsidence of the liver and spleen before the child left the hospital favored some degree of biliary obstruction rather than cirrhotic changes in the liver.

Epinephrine in Rheumatic Heart Block.—Two points are stressed by Sutherland: the value of epinephrine in conditions of heart block when the symptoms are so severe that death seems imminent, and the early appearance of a definite and grave cardiac lesion as the result of rheumatic infection, and before any other evidence could be detected as to what the nature of the illness was.

Incidence of Rickets in London Hospital.—One hundred and sixty-nine children were examined radiographically and clinically for evidence of rickets at the Queen's Hospital for Children in April, 1925. Two rachitic children were excluded, since they were sent to the hospital for that disease. Of the 167 remaining, thirteen had radiographic evidence of rickets (i. e., 8 per cent), but if only infants between the ages of 4 and 13 months are considered, seventy-two are left, eleven of whom had rickets, an incidence of 15 per cent.

Incidence of Rickets in London.—In a series of 339 cases occurring between birth and 2 years, there were four cases of active roentgen-ray rickets, 1.2 per cent of the total. One hundred and ten cases showed clinical rickets which was proved to be healed, showing that 32 per cent of the children had had rickets. Ninety-two per cent of the children were having some cod liver oil preparation. Evidence is produced which suggests that cod liver oil protected some children from rickets, and healed rickets in others. The diet of the normal children showed that 0.3 per cent were fed on dried milk, 0.4 per cent on cow's milk, 0.1 per cent on sweetened condensed milk and 0.2 per cent on breast milk. Ninety-six per cent of these, however, were having cod liver oil, and the 4 per cent remaining were breast fed.

Results of Splenectomy in Purpura Hemorrhagica.—Of fifty-eight cases of purpura hemorrhagica reported by Williamson in which splenectomy was done, fifty patients are well, two are improved and six are dead. Williamson says that operation should be reserved for chronic cases which fall into two groups: (1) those in which chronicity with severity so interferes with the normal life of the subject that a state of chronic invalidism is established; (2) those in which the severity of the hemorrhages and the frequency of its occurrence constitute a real danger to the life of the patient.

Ketonuria and Urinary Acidity.—The average urinary p_H in forty-two cases exhibiting ketosis was 5.86, while that of the controls was 6.37. In none of the cases of ketosis following tonsillectomy was a urinary acidity encountered which approached a point indicative of acidosis. The p_H lay within normal limits in every case. A simple method of testing the urinary acidity is described. To 1 inch of urine in a test tube is added 5 drops of bromcresol purple (0.04 per cent aqueous solution). If the color obtained is purplish, no further tests need be carried out. The p_H is on the alkaline side of 6.4. If a yellow color is obtained, to a like quantity of urine in another tube is added 5 drops of methyl red (0.02 per cent in 60 per cent alcoholic solution). If the color then obtained is yellowish orange and not a deep pink, the urinary acidity lies to the alkaline side of p_H 5.4, and no danger from an acidosis need be feared.

Immunotransfusion for Septicemia.—Four cases of proved septicemia treated by immunotransfusion with one recovery and three deaths are described by Lloyd and Schlesinger. Success resulted in a pneumococcal septicemia consequent on empyema, and seems attributable to the transfusion.

Biochemical Journal, London

20: 1-216 (No. 1) 1926

Cyanate in Blood. E. Gottlieb.—p. 1.
Modification of Calcium Pectate Method for Estimation of Pectin. A. M. Emmett and M. H. Carré.—p. 6.
Hydrolysis of Cyanic Acid. W. R. Fearon and G. C. Dockeray.—p. 13.
*Effect of Chemical Preservation of Eggs on Stability of Their Vitamin Contents. E. Tso.—p. 17.
Nature of Action on Photographic Plate of Sawdust and Cholesterol Irradiated by Mercury Vapor Quartz Lamp. N. S. Lucas.—p. 23.
Use of Colloidal Ferric Hydroxide Sol for Adsorbing Vitamins B and D. R. Zajdel and C. Funk.—p. 27.
*Vitamin B of Lemon Rind. S. G. Willimott.—p. 31.
Micromethod for Estimation of Hydrogen Ion Concentration of Capillary Blood. C. J. Martin and E. H. Lepper.—p. 37.
Discrepancy Between Electrometric and Colorimetric (Phenol Red) Determinations of C_H According to Salt-Content of Solution E. H. Lepper and C. J. Martin.—p. 45.
Oxidation of Aceto-Acetic Acid and Ester by Hydrogen Peroxide; Biochemical Significance. P. W. Clutterbuck and H. S. Raper.—p. 59.
Tyrocinase-Tyrosine Reaction. IV. Identity of Tyrosinase from Different Sources. H. S. Raper and H. B. Speakman.—p. 69.
Pigments of Butterflies' Wings. I. Melanargia Galatea. D. L. Thomson.—p. 73.
*Nitrogen and Sulphur Metabolism. H. E. C. Wilson.—p. 76.
*Chemical Nature of Subcutaneous Fat in Normal and Sclerematous Infant. H. J. Channon and G. A. Harrison.—p. 84.
*Determination of Iron in Blood, Tissues and Urine. F. S. Fowweather.—p. 93.
*Excretion of Phosphate During Water Diuresis. R. E. Havard and G. A. Reay.—p. 99.
Buffer Mixture for Alkaline Range of Hydrogen Ion Concentration Determinations. W. R. G. Atkins and C. F. A. Pantin.—p. 102.
Anemia, Urobilinuria and Intestinal Hemorrhage in Rabbits in Consequence of Exclusive Nutrition with Cow's and Goat's Milk. E. Brouwer.—p. 105.
Chemical Study of Leaf Cell Cytoplasm. I. Soluble Proteins. A. C. Chibnall and C. E. Grover.—p. 108.
Sources of Error in Technic Employed for Biological Assay of Fat-Soluble Vitamins. H. Chick.—p. 119.
*Maintenance of Standardized Breed of Young Rats for Work on Fat-Soluble Vitamins: Endowment of Offspring. H. H. Smith and H. Chick.—p. 131.
*Antirachitic Value of Fresh Spinach. H. Chick and M. H. Roscoe.—p. 137.
*Antirachitic Value of Winter Spinach. M. A. Boas.—p. 153.
Dehydrogenations Produced by Resting Bacteria. IV. Theory of Mechanism of Oxidations and Reductions in Vivo. J. H. Quastel.—p. 166.
Interaction of Amino-Compounds and Carbohydrates. I. Action of Urea on Glucose, Fructose and Mannose. A. Hynd.—p. 195.
Id. II. Preparation of Glucose Ureide. A. Hynd.—p. 205.
Bacterial Decomposition of Textile Fibers. III. A. C. Thaysen, W. E. Bakes and H. J. Bunker.—p. 210.

Effect on Vitamins of Chemical Preservation of Eggs.—Chinese preserved eggs, or "pidan," offer an unusual opportunity for the study of some of the conditions under which the stability of vitamins may be affected. The preserved eggs are more or less chemically changed products of fresh ducks' eggs which are presumably rich in vitamin A, vitamin B, and the antirachitic food factor which exhibits certain vitamin-like properties. "Pidan" is made from raw ducks' eggs by applying a mixture of slaked lime, straw ash, soda, table salt and water. A study made by Tso of the stability of the vitamins in these preserved eggs has shown that the originally rich vitamin B content is practically completely destroyed, but that the potency of vitamin A and the antirachitic food factor is little or not at all affected.

Vitamin B of Lemon Rind.—From the experimental results obtained by Willimott, it is evident that vitamin B is present in appreciable amounts in the rind of the fresh lemon. This supply of B, though sufficient for reproduction, was inadequate for successful rearing.

Nitrogen and Sulphur Metabolism.—Further evidence is adduced by Wilson in favor of the view that in the storage of protein the sulphur is retained first.

Chemical Nature of Subcutaneous Fat of Infants.—The analytic constants of the subcutaneous fat of eight infants and one adult have been determined by Channon and Harrison. The iodine value is lowest at birth and increases to the adult value from the eighth to the twelfth month of life; there is a corresponding decrease of melting point with age. The saponification value is almost constant at 200. Similar analyses have been made in four cases of sclerema neonatorum in which the fat appears to have a higher melting point and a slightly lower iodine value than the corresponding values of the fat in infants of the same age. The raised melting point is believed to be due to the presence of an excess of glycerides of the higher fatty acids—probably of palmitic acid—which causes a slight decrease in the oleic acid content of the fat. Subcutaneous tissue in cases of sclerema contains an abnormal amount of cholesterol, calcium and phosphorus.

Determination of Iron in Blood, Tissues and Urine.—Methods are described by Fowweather for determining the amount of iron present in the blood, tissues and urine, using the colorimetric method dependent on the formation of ferric thiocyanate in the presence of acetone. It is shown that these methods are capable of a high degree of accuracy. They are simpler and less time-consuming than the methods at present in use.

Excretion of Phosphate During Water Diuresis.—Havard and Reay assert that the rate of phosphate excretion is independent of the water rate even when, owing to copious diuresis, the urinary phosphate is below the level of the plasma phosphate. It is shown that this is inconsistent with the view that phosphate is a "no-threshold" substance as represented in Cushny's theory of kidney secretion. The bearing of this result on other theories of kidney secretion is briefly discussed.

Fat Soluble Vitamin Diet.—A description is given by Smith and Chick of the diet and general management found satisfactory in breeding rats for nutritional work on fat-soluble vitamins. The diet used, consisting of cereals, fresh vegetables and milk, is moderately rich in vitamin A but poorer in vitamin D, except in summer, when fresh pasture milk contains a much increased amount of this vitamin The experiment of replacing fresh milk in the diet of the pregnant and lactating mothers by dried milk prepared from the winter milk supply has proved successful in lessening the degree of irregularity among the young

Antirachitic Value of Fresh Spinach.—According to Chick and Roscoe, fresh leaves of spinach are a rich source of vitamin A, a small daily ration (0 1 Gm and upward) encouraging growth and lessening or preventing xerophthalmia in young rats on diets devoid of fat-soluble vitamins Spinach grown in the open in winter, spring or autumn possesses no antirachitic properties that can be demonstrated by the methods employed. Spinach leaves when irradiated with ultraviolet rays from a mercury vapor quartz lamp become powerfully antirachitic

Antirachitic Value of Winter Spinach.—The fresh leaves of winter-grown spinach added to an experimental diet caused an even greater improvement in the well-being of rats and in the rate of growth than was caused by the addition of cod liver oil The weight of the skeleton was not, however, proportionally increased. The conclusion is drawn by Boas that winter spinach contains an amount of vitamin D which is negligible compared with its content of vitamin A.

British Journal of Experimental Pathology, London

7: 1 46 (Feb) 1926

*Systemic Factors in Genesis of Cancer W. Cramer.—p 1
*Determination of Amount and Composition of Fat of Feces I. "Wet" and "Dry" Methods F S Fowweather.—p 7.
*Id II Composition of Fat of Feces of Normal Adult F S. Fowweather —p 15
Insulin and Glucose Utilization· Effects of Anesthetics and Pituitary Extract C G Lambie —p 22
*Growth Promoting Factor in Tumor Tissue H. Chambers and G M. Scott —p 33
Preparation of "Purified' Toxin from Blood Bouillon Cultures of Streptococcus Scarlatinae T J. Mackie and D G S McLaughlin —p 41
*Effect of Methylene Blue Injections on Body Temperature of Rat A D Stammers —p 44

Systemic Factors in Genesis of Cancer.—The results presented by Cramer indicate that there are systemic factors influencing the genesis of cancer, and experimentally, at least, the resistance against the genesis of cancer can be diminished Incidentally, it was found that *autotransplantation of minced spleen tissue into a splenectomized mouse leads to regeneration of the spleen.*

Estimation of Fat in Feces.—Fowweather asserts that any method of analysis of dried specimens of feces will show a fat composition which varies to a greater or less degree from that of the specimen as passed Not only are the dry methods inaccurate in a purely scientific sense, but the inaccuracies are such as to lead to erroneous deductions with regard to the clinical significance of the figures obtained The wet method affords a more efficient means of extraction

Fat in Feces.—The feces in eighty surgical cases were analyzed by Fowweather by the wet method The average amount of total fat was decidedly less than given by Cammidge's figures There was a preponderance of free over combined fatty acids. In 80 per cent of the cases the percentage of neutral fat was below 50

Growth Promoting Factor in Tumor Tissue.—Experiments made by Chambers and Scott showed that a substance is produced from tumor cells during autolysis which in vivo causes an appreciable increase in the rate of tumor growth. The substance is formed under conditions which preclude its being a living agent. It is a fairly stable chemical body which is apparently derived from the nuclear structures.

Effect of Methylene Blue on Body Temperature.—The figures obtained by Stammers indicate that no abnormal fluctuations in temperature occur as a result of the injection of methylene blue in rats.

Indian Medical Record, Calcutta

45: 33 64 (Feb) 1926

Present Position of Medical Profession and Medical Research in India R Row —p 33
Experience in Treatment of Kala Azar with Urea Stibamine A C Chaterjee —p 39
Nonspecific Protein Therapy. A Roy —p 44

International Journal of Psycho-Analysis, London

7: 1 153 (Jan) 1926

Psychologic Relations Between Sexuality and Alcoholism K Abraham —p 1
Neurotic Character E Glover —p 11.
Infant Analysis M Klein —p 31
Will to Recovery. H Nunburg —p 64.
Coincident Phantasies in Mother and Son K Abraham —p 79.
Epistaxis in Man Simulating Menstruation D Bryan —p 81.

Journal of Cancer, Dublin

3: 1 44 (Jan.) 1926

*Cancer and Diet A Charles —p 1
Heat Treatment of Cancer of Cervix A C. Magian —p 14
Experiences with Carcinoma Antitoxin M J Scott —p 18
Treatment of Diseases of Prostate by Deep Roentgen Ray Therapy W. Pilger —p 31

Cancer and Diet.—Charles stresses the importance of proper feeding, outdoor exercise, avoidance of constipation and of overheated foods as means to prevent the occurrence of cancer

Journal of Biochemistry, Tokyo

5: 293 477 (Oct) 1925

Digestibility of Desaminoproteins by Proteolytic Ferments. R. Nakashima —p 293
Proteins of Adzuki Bean E Takahashi and T. Itagaki —p 311
Influence of Manurial Ingredients on Hydrogen Ion Concentration of Juice of Rice Plant K Miyake and M Adachi —p 321
Modification of Widmark's Micromethod for Determination of Blood Alcohol M Aoki —p 327
Influence of Atropine and Pilocarpine on Sugar Elimination Threshold. H S Shim —p 333
Sympathicotonia and Sugar Elimination Threshold H S Shim —p 377.
Behavior of Vital Amino Acids During Hatching of Hen's Egg Y. Sendju —p 391.
Influence of Injection of Neutral, Acid and Alkaline Salt Solution on Urine Secretion K Misumi —p 417.
Effect of Injection of Calcium Chloride and Magnesium Chloride on Urine Secretion K Misumi —p 441
Experimental Investigations on Assimilation of Levulose, Galactose and Glucose During Fasting and with Albumin Fat S Nagasuye —p 449.
On Gastric Juice of Pregnant Women T. Nakai —p 465

Journal of Hygiene, London

25: 1 118 (Feb) 1926

Inhalation Experiments on Mice with Pneumococci F. Griffith —p 1
B. Coli as Index of Fecal Pollution of Water Supplies D A Bardsley. —p 11
"Laurentic" Salvage Operations and Prevention of Compressed Air Illness G C C Damant —p 26
Measurement of Bacterial Virulence and Certain Allied Properties· Virulence of B Aertrycke L P Lockhart —p 50
Dick Test in Scarlet Fever Patients and in Normal Individuals J Smith and J S Taylor —p 90
Effects of Inhalation of Coal and Stone Dusts on Lungs of Pit Ponies F Haynes —p 94
Study of Tubercle Bacilli Isolated from Cases of Surgical Tuberculosis (Chiefly Bone and Joint) in Sheffield Area J. W Eddington and D Guest —p 109.

Journal of Tropical Medicine and Hygiene, London

29: 53 64 (Feb 15) 1926

Search for More Efficient Prophylaxis Against Tuberculosis F Cevey. —p 53
*Pathogenesis and Treatment of Seasickness R Ribolla —p 59.

Seasickness.—Ribolla believes that seasickness is a functional disturbance due to the hyperemia of the vestibular apparatus, produced by the constant changes in the position of the body on the ship in movement (movements which have an opposite direction in pitching and rolling), by which at first the semicircular canals and the endolymphatic liquid simultaneously follow the movements of the body and that when they have a movement in the opposite direction the endolymphatic liquid continues to be carried in the direction produced by the first impulse, and then goes inversely to the movements of the semicircular canals, which follow all the movements of the body. In this way, the endolymph is made to impinge on the ampullae of the semicircular canals, producing vertigo. Movements of the ship will excite different semicircular canals, especially of the superior and posterior canals (rolling and pitching). Excitation and hyperemia of the vestibular apparatus produce a reflex vertigo, with exaggeration of the activity of the pneumogastric nerve (vagotonic state). In these conditions, the best remedies are those which act as sedatives to the vagus, and tampons producing ischemia introduced into the external auditory meatus.

Kenya Medical Journal, Nairobi, East Africa

2: 299-328 (Feb.) 1926

Population in Africa. A. R. Paterson.—p. 202.
Laboratory in Relation to Medical Practice in Kenya. W. H. Kauntze.—p. 309.
Proposed Expansion of Medical Services in Kenya. J. L. Gilkes.—p. 318.
Bwana Pumps. A. de V. Wade.—p. 325.

Medical Journal of Australia, Sydney

1: 177-186 (Feb. 13) 1926

Protein Therapy in Affections of Eye. H. F. Shorney.—p. 177.
Nerve Endings in Adipose Tissue. H. J. Wilkinson and A. N. Burkitt.—p. 179
Ovarian Malignancy: Krukenberg Tumors. R. F. Matters.—p. 181.
Last Season's Gastro-Enteritis. E. H. M. Stephen.—p. 182.
Medical Benefits and National Insurance. J. N. Morris.—p. 184.
*Intoxication Following Use of Coal Tar Paints. T. A. Kidston.—p. 188.

Coal Tar Paints Cause Poisoning.—Kidston describes a new form of intoxication encountered among painters and laborers engaged in applying coal tar preparations to the inner walls of confined spaces. The premonitory symptoms complained of were in most cases few and mild. Onset was sudden and almost unperceived. The first symptoms were dizziness, lacrimation, gastric malaise, nasal irritation and muscular weakness. At no time was there any dermatitis or any symptom of bronchial or gastric irritation. Examination of the urine of five patients on the day after the intoxication revealed no albuminuria. Coal tar naphtha was found to be the cause of the illness. The effects are mild and temporary, causing no ill to the human system.

1: 203-228 (Feb. 20) 1926

Stillbirths and Early Infantile Mortality. P. L. Hipsley.—p. 203.
Causation and Prevention of Mortality During First Month of Life M. Harper.—p. 207.
Cerebral (Occipital Lobe) Tumor. W. Evans.—p. 212.
Torsion of Epididymis and Spermatic Cord. T. Hamilton.—p. 212.

1: 229-260 (Feb. 27) 1926

*Intra-Uterine Transplantation of Ovary. R. B. P. Monson.—p. 229.
Indications for Cesarean Section. H. C. F. Donovan.—p. 232.
Indications for Interference During Labor R. N. Wawn.—p. 237.
*Treatment of Puerperal Insanity. P. Lalor.—p. 247.

Intra-Uterine Transplantation of Ovary.—When double salpingectomy is unavoidable in patients who desire to retain the possibility of childbearing, Monson advocates intra-uterine transplantation of the ovary. His experiments on rabbits show that the ovary with its blood supply intact can be transplanted successfully into the cavity of the uterus. Microscopically, the ovary is seen growing in the uterine mucosa, but it is in a state of delayed activity, as evidenced by the absence of graafian follicles, but there are clusters of primordial cells and here and there primitive young follicles. There is some atrophy of glandular elements of the uterus and slight round cell infiltration.

Vaccinotherapy of Puerperal Insanity.—Ten cases of puerperal insanity have been treated by Lalor with vaccines. Two series of vaccines were used. No. 1 series contained 20 million *Bacillus coli-communis* and 120 million *Staphylococcus aureus* in each 0.2 cc. An initial dose of 0.3 cc. was given by hypodermic injection. In four days an increased dose of 0.6 cc. was given, and so on at intervals until 1.5 cc. had been given in a dose. After an interval of a month, if no result was obtained or if the result was insufficient, a second course of no. 2 series was given. The vaccine of no. 2 series was of the same composition as that of no. 1 series, but was made up to twice the strength. The same doses and the same intervals were used in the second course as in the first. The results from the treatment are said to have been very good.

Medical Journal of South Africa, Johannesburg

21: 153-180 (Jan.) 1926

Eczema: Psychologic Factor in Causation. H. C. Martin.—p. 155.
Gallstones. R. L. Girdwood.—p. 158.
Prolonged Amenorrhea Associated with Carneous Mole. J. Schneider.—p. 162.

National Medical Journal of China, Shanghai

12: 1-123 (Feb.) 1926

*Vitality of Plague Bacilli in Stained Smears. H. M. Jettmar.—p. 1.
Beriberi Control from Administrative Viewpoint. J. W. H. Chun and W. Lien-teh.—p. 9.
Statistical Study of Six Hundred Cases of Fractures. J. T. Tai.—p. 21.
Influenza. H. L. Cumning.—p. 31.
Poison Statistics. B. E. Read.—p. 46.
Duties and Responsibilities of Present-Day Chinese Physician. L. Shu-Fan.—p. 57.
*Transmission of Typhoid Fever by Bedbugs. Lynn-Ge.—p. 62.

Vitality of Plague Bacilli.—The vitality of *B. pestis* has been studied by Jettmar. Intensive fixation by passing through the flame does not kill the bacilli in thin smears from a plague bubo. Even short fixation by alcohol after passing through the flame does not kill with certainty. Preparations stained with diluted carbolfuchsin may still contain living plague bacilli even when treated previously with alcohol for a short time. By staining with concentrated alkaline methylene blue, the bacilli seem to be killed. The wash from the stained plague smears may contain plague bacilli. It has, therefore, to be disinfected, as well as the filter paper that has been used for drying the stained preparations.

Transmission of Typhoid by Bedbugs.—Lynn-Ge has determined experimentally that typhoid can be transmitted by bedbugs, but two conditions are essential to infection: (1) The blood which the bedbugs suck must contain a large number of typhoid bacilli; (2) numerous bedbugs must bite the healthy animal.

Naval Medical Association Bulletin, Tokyo

15: 1-29 (March) 1926

Study of Exudate Cells in Seromembranous Cavities. T. Uyeyonahara.—p. 1.
Use of "Yatren" on Fistula and Ulcer of Tuberculosis of Bones and Joints. R. Suzuki.—p. 2.

Okayama Medical Society Journal, Okayama, Japan

119-246 (Feb.) 1926

Glycogen in Milk Spots of Omentum. Y. Hamazaki.—p. 1.
Experimental Studies on Meningococcic Labyrinthitis. II. Healing Processes. T. Kasai.—p. 161.

South African Medical Record, Cape Town

24: 49-72 (Feb. 13) 1926

Treatment of Puerperal Fever. A. Abelheim.—p. 50.
Heart Disease. J. P. Duncan.—p. 53.
Medical Evidence and Witnesses. O. V. Sampson.—p. 55.
Case of Glioma of Cerebellum. R. L. Girdwood.—p. 58.
General Anesthetics and Their Action on Human Body During Administration. N. J. Laubscher.—p. 59.
Case of Maldevelopment of Esophagus. R. Theron.—p. 61.
Retained Placenta. H. D. Traill.—p. 62.

Tubercle, London

7: 265-312 (March) 1926

Tuberculosis Inoculata of Guinea-Pigs. G. R. Ross and W. J. Tulloch.—p. 265. To be continued.
*Relationship of Ischiorectal Abscess and Fistula-in-Ano to Pulmonary Tuberculosis. B. R. Clarke.—p. 277.
Occupational Therapy. J. Walker.—p. 281.

Ischiorectal Abscess and Tuberculosis.—Clarke asserts that about 5 per cent of male cases of pulmonary tuberculosis are associated with an ischiorectal abscess or a chronic fistula. There is evidence that 61 per cent of cases of fistula subsequently develop pulmonary tuberculosis. About 5 per cent of fistula in ano can be proved to be tuberculous by histologic examination. Twenty per cent of cases of fistula have been proved tuberculous by inoculation experiments.

Annales des Maladies Vénériennes, Paris

21: 1-80 (Jan.) 1926

Different Methods of Treatment of Chancroid. P. Vigne et al.—p. 1.
*Benzoin-Cholesterol Test for Syphilis. V. E. Badoux.—p. 21.
*Differential Diagnosis of Nodular Syphilis. Dumollard.—p. 42.

Benzochol Test for Syphilis.—Badoux tabulates the comparative findings with the Wassermann, Sachs-Georgi and Vernes tests and the Sachs-Klopstock benzoin cholesterol (benzochol) method in 264 subjects. He applied the tests to 221 syphilitic serums, 40 tuberculous, 3 from leprosy, and 221 free from syphilis. The reactions harmonized well in the syphilitic serums. The benzochol reaction appeared more sensitive than the Sachs-Georgi, and as specific as the Wassermann or Sachs-Georgi. The test is simple and rapid, but the instability of the benzochol solution deprives this reaction of practical value. The antigen property of the solution seems to vanish in two or three months.

Lupus and Nodular Syphilis.—Dumollard found all the signs testifying to lupus in the case described, even to the findings under pressure with glass. But under tentative treatment as for syphilis the "lupus" rapidly melted away.

21: 81-160 (Feb.) 1926

General Pathology of Congenital Syphilis. J. Golay and A. Starobinsky.—p. 81.
False General Paresis in Tabes. Gougerot et al.—p. 107.
*Gumma as Primary Sore at Reinoculation with Syphilis. Montpellier.—p. 141.

Gumma as Primary Lesion from Syphilis Acquired in Congenital Syphilis.—Montpellier reports a case of genital syphilitic gumma, appearing about fifteen days after contamination. This occurred in a native of Africa with congenital syphilis, aged 30. It is probable that chancriform gummas may appear as the result of specific reinfection. This may be especially noted among the nontreated natives. The extreme allergy of the syphilized organism explains why reinoculation induces in them only a local tertiary lesion, of highly allergic type, namely, the gumma. On the other hand, this may also explain the rarity of the localization of the spirochetes in the central nervous system among the natives.

Bulletin de l'Académie Royale de Médecine, Brussels

5: 581-667 (Nov. 28) 1925

*The Campaign Against Syphilis in Belgium. Bayet.—p. 608.
*Treatment of Fracture of the Leg. M. Stassen.—p. 642.
Infection of Cattle with Theileria Parva. R. van Saceghem.—p. 651.
Biochemical Study of the Dipsacea. N. Wattiez.—p. 660.

5: 669-726 (Dec. 19) 1925

Existence of a Myometrial Gland in the Human Uterus (25 Photomicrograms). H. Keiffer.—p. 684.

The Campaign Against Syphilis in Belgium.—Bayet presents the results accomplished in Belgium since the Armistice as a brilliant success. At the close of the war the disease had spread to the remotest villages and drugs to combat it were distributed through 300 clinics and dispensaries, but it was not until August, 1920, that a concerted effort was made for systematic drug prophylaxis on a large scale. As the arsenicals cause the rapid healing over of the open lesions of syphilis, this double cicatrizing and microbicidal action reduces the contagious stage of syphilis to a fourth or a fifth of the former duration of the infectious phase. This is equivalent to reducing by 75 or 80 per cent the number of sources of infection. The universal distribution of the disease compelled universal provisions for combating it, and the national public health service called on every physician in the realm for aid. The state supplied the drugs free to every person affected with syphilis, and medical treatment was given free also, the state reimbursing the physicians for their assistance in administering the drugs. In this way, treatment was accessible to all and the entire profession throughout the country collaborated in the work. The state paid out 1,400,000 francs annually for the drugs during the first years, and paid the expenses of the numerous preventoriums established.

In the Scandinavian countries, every syphilitic is compelled to continue treatment until completely cured, under penalties up to imprisonment. But these measures are too drastic for Belgium, and the reliance had to be on measures to persuade and remind the syphilitic of the necessity for overcoming their inertia and continuing treatment as long as necessary. The Antivenereal Peril League conducted an intensive campaign with posters, meetings, pamphlets, moving pictures, reaching directly nearly a million and a half persons and rallying to the service 250 different organizations of various kinds; 100 lecturers delivered 2,250 lectures, during the three years, to audiences totaling 562,500. The work of the Antivenereal Peril League was thus an indispensable complement to the work of the state in the campaign, but the country doctors deserve special credit for searching out cases in the remotest regions. The proportion of new cases to the total syphilitics dropped from 25 per cent in 1920 to 12 per cent in 1923, in Brussels, from 23 to 9 per cent; at Antwerp, from 34 to 16, and at Liége from 34 to 12 in 1924. In no other country have the results been so decisive as in Belgium except in the Scandinavian countries. The propaganda made by the league was not on moral grounds but a propaganda of facts, bringing the secret diseases out into the open, proclaiming their dangers, and posting everywhere the addresses of places where they could be cured free of cost. Most of the new cases encountered now are imported.

Treatment of Fractured Leg.—Stassen clears out the focus thoroughly, sutures, and immobilizes in a Laurencet pad, and has the patient sit on the side of the bed with his legs hanging loose. He is encouraged to move his toes, ankle and knee, repeating the pendant legs active movements day after day. The soft parts are repeatedly punctured to allow escape of lymph and blood; more than a liter of fluid may drain away in the first two days. In none of his fifteen cases treated on these principles was the temperature above 37.5 C. and it was constantly below this after the second day. The operative wound healed by primary intention, and consolidation was complete in three to six months, although in some cases the roentgen rays had shown an actual mosaic of splintered and crushed bones.

Bulletins de la Société Médicale des Hôpitaux, Paris

50: 243-292 (Feb. 19) 1926

*Familial Localizations of Syphilis. C. Flandin.—p. 243.
Multiple Osteopathies in Tabetic Subject with Pseudo-Acromegaly. P. Harvier et al.—p. 249
Dislocations in Chronic Rheumatism. Crouzon and Christophe.—p. 255.
*Infarction of the Myocardium. R. J. Weissenbach and M. Kaplan.—p. 261.
Micrometer Test for Utilization of Hemoglobin. R. Godel.—p. 268.
Case of Wernicke's Aphasia. Laignel-Lavastine and Valence.—p. 270.
Case of Recklinghausen's Disease of the Bone. Idem.—p. 273.
Cytotoxic Serum for Thyroid Cancer. E. Coulaud.—p. 276.
*Suprarenal Melanodermia M. Loeper et al.—p. 283.

Familial Elective Localization of Syphilis.—Flandin reports five cases of syphilis with identical localization in members of the family: syphilis of the aorta in two brothers and the wife of one; in husband and wife, and in father and son; also hemolytic jaundice, from congenital syphilis, in father and two daughters. In his opinion, the syphilitic virus is single; its localization may depend on a hereditary predisposition, rendering certain tissues or organs more vulnerable, so that they become the elective seat of the spirochetes. The identical form of syphilis in husband and wife may possibly be explained by the same food and conditions of living, inducing in them similar properties, entailing analogous reactions to a morbid agent. The specific treatment cannot modify the tropism of the spirochete in the contaminated subject, but it may modify it in the one transmitting the infection.

Secondary Angina Pectoris.—Weissenbach and Kaplan describe a case of infarct of the myocardium, inducing a condition of angina pectoris in a man, aged 62. The characteristic pain was located not only in the whole of the thorax, but also in the arms, neck, jaws and upper part of the abdomen. The pain was extremely severe and persisted for eight days, until death. The extreme severity of the pain and its unusual extent were the predominant clinical features, suggesting in this, as also in two other personal cases, the diagnosis of infarction in the myocardium.

Suprarenal Bronzing and the Sulphur of the Blood.—Loeper, Decourt and Ollivier conclude from their experimental and clinical study of suprarenal melanoderma that melanin is an amino-sulphurous substance. The suprarenals retain the sulphur; and therefore obliteration or removal of these glands increases the amount of sulphur in the organism. The high sulphur content of the blood with melanoderma suggests that it may be a factor in the pathogenesis of the pigmentation.

Comptes Rendus de la Société de Biologie, Paris

94: 169-232 (Jan. 29) 1926. Partial Index

*Vaccination Against Anthrax. A. P. Nevodoff.—p. 170.
Changes of Lymphoid Organs Under Sun Rays. J. Jolly.—p. 173.
*Conservation of Insulin. A. Choay.—p. 178.
Bacteria Isolated from Cancers. B. Fejgin et al.—p. 199.
*Maternal and Fetal Serums. L. Hirszfeld and H. Zborowski.—p. 205.
Complement Fixation in Syphilitic and Tuberculous Plasma. J. Kabelik et al.—p. 209.
Antagonism Between Typhoid and Colon Bacilli. J. Vignati.—p. 212.
Influence of Bile on Resorption of Drugs. J. Kolda.—p. 216.
*Action of Pilocarpine on the Stomach. L. Mitrovitch.—p. 221.
*Action of Atropine on the Stomach. L. Mitrovitch.—p. 223.
Metabolic Rate in Avitaminosis B. X. Chahovitch.—p. 227.

Intracutaneous Vaccination Against Anthrax.—Nevodoff applied this method in 4,092 animals. Cattle were injected intradermally with 0.6 cc. of the anthrax vaccine, horses with 0.4 cc. and calves with 0.2 cc. The nodule, appearing at the place of the injection, subsided in three or four days. The vaccination did not induce edema or general reaction, and therefore the usual work of the animals was not interrupted. No cases of anthrax were noted among the vaccinated. A second injection of the vaccine in twenty cattle testified to the substantial immunity conferred by the first injection, as there was no reaction of any kind to the second. The Besredka technic was strictly followed.

Conservation of Insulin.—In Choay's experiments the insulin retained its potency for about two years after its preparation; and for nineteen months in solution.

The Serologic Symbiosis Between Mother and Fetus.—Hirszfeld and Zborowski say that infants with the same blood group as the mother weighed from 3,200 to 3,500 Gm. soon after birth. The weight of the infants with a blood group different from that of the mother, was from 2,900 to 3,200 Gm. Further observations suggested that considerable difference in the blood groups of husband and wife may arrest the development of the fetus or even impede fecundation. Extreme serologic differences might even be the cause of sterility in certain marriages.

Action of Atropine on Stomach Function.—Mitrovitch reiterates that atropine usually reduces the acidity of the gastric juice, also the pepsin content. It retards the evacuation of the stomach contents. The action of pilocarpine on the stomach is analogous to that of atropine, although the mechanism is different.

Paris Médical

59: 193-208 (Feb. 27) 1926

The History of Percussion. A. Gilbert et al.—p. 193.
Histamine in Study of Gastric Chemistry. A. Gilbert et al.—p. 203.

59: 209-240 (March 6) 1926

Syphilis in 1926. G. Milian and L. Brodier.—p. 209.
Tardy Erythematous Syphilids. Hudelo and Rabut.—p. 217.
*Intolerance for Antisyphilitic Treatment. H. Gougerot.—p. 220.
*Unsystematic Treatment of Syphilis. G. Milian.—p. 225.
Treatment of "Low" Gonorrhea in Women. J. Janet.—p. 231.
Marginal Glossitis Exfoliativa. G. Rimé.—p. 235.

Multiple Intolerance for Drugs Used in Treating Syphilis.—Gougerot has observed cases of intolerance not only for arsenicals or mercury or even of bismuth; but for two or all of these drugs. The cause of this "polyintolerance" is so far not established. Most of the by-effects are of the anaphylaxis type, as, for instance, arsenical or bismuth shock or erythrodermia. There are also phenomena of saturation, such as toxic arsenical neuritis, or lesions of the liver, an arsenical purpura. The intolerance may be tardy, appearing not before the end of one or repeated series of treatment; sometimes not until three or four years after the specific treatment. The intolerance may occur rapidly, at the second or third injection; it may be total, so that the patient cannot bear any preparation of the drug; or partial, intolerant only to certain brands. In this case the doses must be decreased; sometimes by a half. After suspension for a time, the drug may be resumed, starting with very small doses, and gradually increasing them. Vaccinating doses, given one hour before the normal dose, were beneficial in two patients. Antitoxic and antianaphylactic substances may be effectual. In rebellious intolerance to each of the most important drugs, less powerful antisyphilitic remedies, now unpopular, may have to be used.

Unsystematic Treatment of Syphilis.—Milian declares that there has been no reduction in the number of new cases of syphilis. He encounters as many nowadays as in 1919. This is due in part to the afflux of foreigners, especially from the African colonies, where nearly every one has syphilis. But it is due in large part also to the anarchy that prevails in the treatment of syphilis, the diversity of drugs, of doses, of routes, and the length of treatment. He reiterates that physicians are forgetting what a serious disease syphilis is; they are confident that it can be easily cured and with mild courses, and they trust too implicitly that negative serologic tests imply a cure.

Presse Médicale, Paris

34: 289-304 (March 6) 1926

Inaugural Lecture of Physiology Course. G. H. Roger.—p. 289.
*Gastric Hyperacidity and the Motor Function. P. Le Noir and R. Sarles.—p. 292.
Eye Complications of Sinusitis. R. Clément.—p. 293.

Hyperchlorhydria and Motility of the Stomach in Men and Women.—Le Noir and Sarles' tests were made on 100 men and 100 women with excessive acidity of the stomach. It seemed to be accompanied by reduced motor functioning more frequently than with exaggerated motility; associated hyperactivity of the mucosa and muscles was noted in only 10 per cent of the men, and only exceptionally in women. Depressed motor functioning of the stomach seemed to be a common phenomenon in women, even in those with hyperchlorhydria. Timbal has emphasized that women suffer less from gastric hypertonicity than men. Hurst also has noted a higher percentage in men of cases of hypervagotonia and a consecutive duodenal ulcer than in women.

Revue de Chirurgie, Paris

63: 709-780, 1925

*Wounds of the Spinal Meninges. M. L'Heureux and P. Ingelrans.—p. 709.
*Fistulas Between Stomach, Jejunum and Colon. R. Appelmans.—p. 757.
*Kienböck's Disease. R. Fontaine.—p. 769.

Simple Wounds of the Spinal Meninges.—In the six cases on record, the three with meningitis terminated fatally. With escape of cerebrospinal fluid, an epidural injection may compress the leaking point, and copious intravenous infusion may aid in restoring the normal balance. With hypertension of the fluid, concentrated sugar solutions by the vein and mouth may be useful. These and a new case are summarized, with the present status of the three patients surviving to date.

Gastrojejunocolonic Fistula.—Both patients recovered after surgical correction of the fistula, in Applemans' two cases.

Traumatic Atrophy of the Semilunar Bone.—In Fontaine's case of Kienböck's disease, the young man had injured the semilunar bone in catching a brick thrown to him in unloading. Atrophy and softening of the bone had incapacitated him, but all disturbances ceased after removal of the semilunar bone. Müller obtained good results in a case of this kind by scraping out the bone, keeping the shell of the bone.

Revue Franç. de Gynécologie et d'Obstét., Paris

21: 1-64 (Jan.) 1926

*The Oscillometer in Obstetrics. P. Balard.—p. 1. C'cn, p. 65.
Dystocia from Retention of Urine in Fetus. F. Jullien.—p. 24.
Case of Tubal-Abdominal Pregnancy. A. Weymeersch.—p. 26.
Complications in a Case of Pyosalpingitis. H. Violet.—p. 28.

The Oscillometer in Obstetrics.—Balard records the arterial pressure and the oscillometer index in normal pregnancy, in labor and after delivery, also in incoercible vomiting and suprarenal insufficiency, and in pregnancy toxemia, albuminuria, eclampsia and retroplacental hemorrhage. He specifies the influence on arterial pressure of pulmonary affections, and cardiac insufficiency, during the puerperium, and the changes of arterial tension under anesthesia, obstetrical hemorrhages or shock and puerperal infections. He reiterates that determination of the arterial tension and the oscillometer index is valuable not only in prognosis, but as a guide and control for treatment. He summarizes the findings in eighty women, using a Pachon oscillometer, as a simple and reliable method for testing the blood pressure.

Revue de Médecine, Paris

42: 587-718, 1925

*Mediastinal-Pulmonary Lymphosarcomas. C. Roubier.—p. 587.
*Pregnancy, Protein Shocks and Biliary Colic. G. Parturier.—p. 614.

Lymphosarcoma in the Thorax.—Roubier refers to a group of cancers starting in mediastinal glands and invading the lung early, spreading to the lung, without compressing organs on the way. The clinical picture is that of a chronic pulmonary disease without appreciable mediastinal symptoms. These lymphosarcomas run a rapid course; exploratory puncture may bring pus from a cavity which may mislead the diagnosis, as occurred in one of the three cases described.

Biliary Colic in Relation to Pregnancy.—Parturier analyzes various published statistics and his own experience with twenty-six cases of biliary colic in women. In 11.5 per cent, symptoms from the biliary apparatus appeared for the first time during a pregnancy; in 88.5 such had preceded the pregnancy and reappeared afterward, but the gestation period was free from them. Biliary colic reached its maximum incidence in the postpartum period. Widal has recorded the same in regard to asthma, and Lépine in regard to epileptic seizures. Parturier thinks that this can be explained by a kind of postpartum shock. Wallich called attention in 1907 to this sudden postpartum depression, drop in the arterial pressure and temperature, and extreme weakness, the whole sudden in its onset and transient. It seems to be a kind of anaphylactic shock as the ovary resumes its external function after the long rest. This increases the analogy between liver colic and protein shock.

Schweizerische medizinische Wochenschrift, Basel

56: 193-216 (March 6) 1926

Carbon Dioxide Baths. S. Hediger.—p. 193.
Hemangioma of the Larynx. H. Raaflaub.—p. 196.
Deaths in Swiss Army. F. Kaufmann.—p. 197.
**Lutein Tissue and Metrorrhagias.* F. Chatillon.—p. 204.
Psychotherapy by Expressive Movements. H. Schwerdtner.—p. 205.
Insurance of Physicians Against Old Age. O. Leuch.—p. 206.

Lutein Tissue and Metrorrhagias.—Chatillon concludes that there is no demonstrable relation between the lutein formations of the ovary and uterine hemorrhages.

Archivio Italiano di Urologia, Bologna

2: 193-291 (Jan.) 1926

*Ureteral Calculi. E. Leo.—p. 193.
*Bladder Calculi. M. Negro.—p. 223.
*Perineal Urethral Fistula. R. Botteselle.—p. 256.
*Suture After Pyelolithotomy. G. D'Agata.—p. 267.

Ureteral Calculus.—Leo's experience with the four cases described demonstrates the importance of prompt intervention, and that the stone in the ureter can be easily reached, through a small incision, by the abdominal extraperitoneal route. The ureter is usually dilated above the obstruction, so that the calculus can be easily pushed up to allow readier access. There were no pathognomonic symptoms but the roentgen findings were conclusive.

Bladder Calculi.—Negro insists that neither cystoscopy alone nor roentgen examination alone can be relied on in diagnosis of bladder stones, but the two combined are remarkably instructive.

Perineal Urethral Fistula.—Six illustrations show the technic and fine outcome of Botteselle's flap method for reconstruction of the urethra.

The Suture After Pyelolithotomy.—D'Agata's research on dogs has confirmed his clinical experience that a longitudinal incision in the posterior wall of the pelvis does not require suture as it will heal spontaneously. If the stone is so large that the incision has to form an obtuse angle—which gives much more room than a straight incision—then conditions do not favor so well the smooth flow of urine, and spontaneous healing cannot be relied on.

Chirurgia degli Organi di Movimento, Bologna

10: 1-208 (Dec.) 1925

*Paralysis from Reduction of Dislocation. C. A. Velo.—p. 1.
Deformity Preventing Reduction of Hip Joint. U. Camera.—p. 18.
Fracture of the Neck of the Humerus. G. Balice.—p. 25.
*Correction of Pes Equinus. U. Camera.—p. 49.
Surgical Affections and Ossification. P. Buonsanti.—p. 61.
*Congenital Dislocation of the Patella. R. Zanoli.—p. 83.
Oppenheim's Disease. G. Faldini.—p. 165.
*Improved Technic for Sympathectomy. U. Camera.—p. 195.
Correction of Pes Equinus. U. Stoppato.—p. 199.
*Disease of the Hip Joint. F. Delitala.—p. 204.

Paralysis After Reduction of Congenital Dislocation of the Hip Joint.—The bilateral deformity was corrected by manipulations alone in the girl, aged 10. But paralysis of both legs followed, persisting for seven months. Velo ascribes it to stretching of the sciatic nerve during the maneuvers. In 110 other nonoperative cases, the reduction was complete and permanent, without mishap.

Correction of Spastic Talipes Equinus.—Camera extols the theoretical and practical advantages of implanting a wedge of bone to spare the tendons from unnecessary strain.

Congenital Dislocation of the Patella.—Zanoli gives an illustrated description of sixteen cases and discusses the outcome under the different methods of treatment that have been proposed. His preference is for transplantation of the patellar tendon and suture of the capsule.

Improved Technic for *Periarterial Sympathectomy.*—Camera injects a simple saline solution between the adventitia and the muscular layer of the artery. The fluid loosens and detaches the adventitia, so it can be easily stripped off.

Hip Joint Disease.—The diagnosis wavered between osteochondritis, preceding coxa plana, and a tuberculous process. Tuberculin tests were negative, and the course of the case has apparently sustained the reliability of the biologic tests for the differential diagnosis.

Pediatria, Naples

34: 225-280 (March 1) 1926

Tuberculosis in Children. I. Nasso.—p. 225.
*Surface Tension of Effusions. M. Giuffrè.—p. 235.
Typhoid Fever at Palermo. B. Vasile.—p. 245.
Phlegmonous Parotitis in Typhoid. L. Auricchio.—p. 259.
Foreign Body in Esophagus. A. Piazza Missorici.—p. 264.

Surface Tension of Effusions.—Giuffrè confirms that a higher surface tension of the fluid (nearer to the surface tension of water) indicates absence of inflammation in the serous cavity.

Policlinico, Rome

33: *257-291 (Feb. 22) 1926*

Dry Complement for Fixation Test. G. Spicca.—p. 257.
*Radiotherapy of Leishmaniasis. P. Timpano.—p. 260.
Hetero-Infection from Vaccination. C. Testa.—p. 262.
Hookworm in Forli. P. Pantaleoni.—p. 264.
Implantation of Eyeball. G. Del Guasta.—p. 267.

Radiotherapy of Leishmaniasis. — Timpano introduces radium into the treatment of cutaneous leishmaniasis.

33: 69-116 (Feb. 15) 1926. Surgical Section

Cutaneous Myomas. O. Angelelli.—p. 69.
"Postoperative Jejunal Ulcers." Dogliotti.—p. 82. *Idem.* Gussio —p. 87. C'td.

Riforma Medica, Naples

42: 193-216 (March 1) 1926

Medicine and Biology. A. Barlocco.—p. 193.
*Tuberculosis and Cancer. E. Centanni and F. Rezzesi.—p. 195.
*Insufficiency of the Liver. A. Brugi.—p. 200.
Medicolegal Experts. E. Mariotti.—p. 208.
Epithelioma of the Middle Ear. M. Galli and E. Di Lauro.—p. 212.

Tuberculosis and Cancer.—Centanni and Rezzesi studied on animals the question of the antagonism between cancer and tuberculosis. Their mice were resistant against the tubercle bacilli. Injection of a mixture of cancer cells and living bacilli produced no tumors. Simultaneous injection in a different part of the body depressed the development of the tumor, although in some of the mice only temporarily. Previous infection of the animals with tubercle bacilli delayed the development of the subsequently inoculated tumor. Injection of bacilli into the tumor partially destroyed it, but some of these animals died under toxic symptoms. Dead bacilli had no influence in parallel experiments. Tuberculin mixed with the emulsion of the tumors retarded or inhibited its growth.

Hemocrasic Insufficiency of the Liver.—Brugi regards incomplete or absent retraction of the blood clot as one of the most constant symptoms of diseases of the liver. A low number of blood platelets is another sign. The prolonged bleeding time is more frequent in liver diseases than a prolonged coagulation time.

Anales de la Sociedad Méd.-Quir., Guayaquil

16: 231-288, 1925

*Simplification of the Ambard Formula. F. Rojas.—p. 231.

Simplification of the Ambard Urea Secretion Coefficient.—Rojas gives fifty-two pages of tables of figures computed to express the values of the fundamental Ambard equation for different weights and different concentrations. This does away with the necessity for calculating the square roots separately in the individual case. He warns against allowing ingestion of water before the test. It should be made in the morning, fasting.

Archivos Arg. de Enf. del Ap. Dig., Buenos Aires

1: 189-398 (Dec.) 1925

*Visualization of Liver-Bronchus Fistula. Escudero et al.—p. 189.
Indications and Technic for Gastrectomy. R. Solé.—p. 196.
Cholesterol and Calcium in the Blood with Thyroid Derangement. M. R. Castex and M. Schteingart—p. 221
Adhesive Periduodenitis. Goyena and Miranda Gallino.—p. 239.
*Renal Lithiasis from Splanchnoptosis. T. Martini.—p. 255.
Cancers of the Right Colon O. Copello.—p. 274.
Roentgenology of Gastric Ulcer. E L. Lanari.—p. 293.
Syndrome from Insulin Hypoglycemia. Escudero and Iriart.—p. 308.
Amebic Colitis with Polyposis. M. R. Castex et al.—p. 326.
Chemical Variations in Stomach Content in Fractional Examination. C. Bonorino Udaondo et al.—p. 332.
Pancreas Cysts. P. Escudero et al.—p. 342.
Present Status of Etiology of Cirrhosis of the Liver. Heidenreich.—p. 357.

Visualization of Fistulas Between Liver and Bronchus.—Escudero and his co-workers found it impossible to get the opaque fluid into the fistula by intratracheal injection. They then punctured the hydatid cyst in the liver, aspirated 10 cc. of pus, and injected the same amount of lipiodol into the cyst cavity. The iodized oil passed into the fistula and bronchus as the patient was placed in the Trendelenburg position. Several of the instructive roentgenograms obtained by the retrograde procedure are reproduced. This and other experiences have convinced them that the method is entirely harmless.

Digestive Disturbances with Calculi in the Kidneys.—The neurasthenic young woman in the case described had calculi in both kidneys, and there was downward displacement of all the viscera. This congenital splanchnoptosis of the Stiller type explained the tendency to phosphaturia and phosphate calculi, from mechanical interference with function. It also explained the digestive disturbances from the same mechanical factors.

Archivos Españoles de Pediatría, Madrid

9: 705-768 (Dec.) 1925

*Prepuberty Obesity in Children. G. Marañon.—p. 705.
Pathogenesis of Whooping Cough. R. Duarte Salcedo.—p. 725.

Obesity in Children.—Marañon emphasizes the necessity for thyroid treatment in every case of obesity in a child with metabolism of 5 per cent below normal. This group includes nearly all the cases of obesity before puberty, and thyroid treatment is scientifically justified. The thyroid treatment not only reduces the weight as the abnormal fat melts away, but the sex characters assume a more normal type, with descent of the testes and loss of the eunuchoid aspect. The transformation in the child's appearance is sometimes remarkable in its promptness and completeness. Ovarian treatment may prove a useful adjuvant in girls. In twelve cases in children between 8 and 15 the metabolism rate ranged from zero to minus 35 per cent. Unless normal conditions are restored in time, the child is doomed to sterility and impotence.

Boletin de la Soc. de Cirugía de Chile, Santiago

3: 241-261, 1925

So-Called Rejuvenation Operations. R. Burmeister.—p. 241.
*The Bile Duct with Gallbladder Disease. Alvaro Covarrúbias P.—p. 253.

Necessity for Exploring the Common Bile Duct in Operations on the Gallbladder.—Another case is reported which brings to five the number on record in which flukes were found in the common bile duct. In the present case, the appendix and gallbladder had both been removed, but the young woman's symptoms still continued. On the assumption of postoperative adhesions, the abdomen was opened again and the dilated common bile duct was incised, releasing four lively specimens of *Fasciola hepatica*. The outlet into the ampulla of Vater was stretched before the parts were sutured.

Gaceta Médica de México, Mexico City

56: 165-274, 1925

Diagnosis and Treatment of Tuberculous Lesions in Anterior Segment of the Eye. J de J. González.—p. 165.
Symptomatic Anthrax in Man. F. Bulman.—p. 174.
The Balsam and Its Products. J. M. Noriega.—p. 180.
Diagnosis of an Osteogenous Myeloid Sarcoma. U. Valdéz.—p. 189.
Tumor of Luschka's Gland. I. Prieto.—p. 196.
The Typhoid Epidemic at Oaxaca in 1915. Ramon Pardo.—p. 207.
Microscopic Diagnosis in Course of Operations. U. Váldez and T. G. Perrin—p. 225.
Electrocoagulation for Chronic Anterior Urethritis. L. Rivero Borrel.—p. 229.
*First Medical Work Printed in Mexico. N. León.—p. 234.
*Present Status of Serodiagnosis of Syphilis. E. Cervera.—p. 244.

The First Medical Book Published in Mexico.—León describes a book printed in Mexico in 1570 of which only three copies are extant, one in the Lenox collection of the New York Public Library. The author was Dr. Francisco Bravo, who practiced in Spain before settling in Mexico. The title is "Opera Medicinalia," and the work contains a number of wood engravings.

Serodiagnosis of Syphilis.—Cervera relates that the concordance was perfect with the Wassermann and flocculation tests in 163 of 187 syphilitic or suspected serums. In the twenty-four in which the findings with the various tests did not harmonize, the Kahn technic seemed to be less sensitive than the other tests. This unreliability was especially noticeable when compared with the Kolmer and Hecht technics.

Pediatría Española, Madrid

14: 333-364, 1925

Regulation of Wet-Nursing. M. González Alvarez.—p. 333.
Heliotherapy for Children. Tolosa Latour.—p. 342.
*Foreign Bodies in the Appendix. M. Milano.—p. 350.
*Enlargement of Liver and Spleen in Boy. Castro Emia.—p. 357.

Foreign Bodies in the Appendix.—Milano describes the cases of three boys, aged 7 to 11, who presented subintrant attacks of appendicitis. There was no hyperleukocytosis, but otherwise the attacks were typical. The appendix was found much dilated; one contained a raw bean in good condition. In the second case a shot had served as a nucleus for a concretion of fecal matter in the appendix. In the third case the appendix was full of grape-stones and had burst, but an adhesive process of localized peritonitis had walled in the escaping grape-stones and pus.

Enlargement of Liver and Spleen with Jaundice and Normal Leukocyte Count.—The three sons had presented this clinical picture; the girls seemed to be healthy. Great improvement was realized by treatment as for syphilis although there were no signs of syphilis in the family. The two older boys had died without reaching the age of the one treated in this way in his ninth year.

Revista de la Asoc. Médica Mexicana, Mexico City

4: 1063-1131 (Dec.) 1925

Hookworm in Mexico. A. J. Warren and H. P. Carr.—p. 1065.
*Electrolysis Cures a Nevus Cancer. S. González H.—p. 1097.
Prophylaxis of Venereal Disease at Juárez Hospital. J. Castro Villagrana.—p. 1103.
The Orientations of Modern Medicine. I. Chávez.—p. 1109.

Nevus Carcinoma.—In González' case the small flat brownish nevus on the cheek from childhood began to grow as the woman reached the age of 48, forming a small tumor, bleeding readily and rebellious to application of household remedies, and finally suppurating. There was no involvement of glands. The microscopic diagnosis was melanic carcinoma, and the whole retrogressed under three sittings of negative electrolysis. The needle was passed down to sound tissue, at eleven points horizontally and eleven points on a vertical line; it was left in place for three minutes each time, while a 6 milliampere current from a dry battery was turned on. The positive pole was placed on the back. The procedure was repeated in two weeks, making the punctures at the outer edge, and a few weeks later the final application was made. The illustrations confirm the complete subsidence of the tumor in three months.

Revista de Crim., Psiquiatría, etc., Buenos Aires

12: 641-768 (Dec.) 1925

The Psychiatric Work of J. Ingenieros. H. Fernández.—p. 644.
Local Chauffeurs from Psychiatric Standpoint. A. Ameghino.—p. 654.
Mongolian Idiocy plus Dwarfism and Infantilism. J. C. Vivaldo and A. Barrancos.—p. 663.
*Remissions in General Paresis. Ramón Cisternas.—p. 678.
Idem. J. V. D'Oliveira Esteves.—p. 684.
Neuromalaria. J. Marin Agramunt.—p. 697.
Protection of Children in Industrial Life. L. Bard.—p. 703.
International Congress on Penitentiaries, 1925. E. Gómez.—p. 719.

The Remissions in General Paresis.—Cisternas comments on the 54 per cent of remissions said to have been realized with malaria treatment of general paresis. In his own experience, the Hospicio de las Mercedes received an average of 241 general paresis cases during a recent ten year period, and an average of 18.67 per cent were discharged on account of remissions enabling them to resume their ordinary life. He explains, however, that besides the forty-five discharged, another twenty might have been discharged but on account of home conditions were retained in the infirmary. This brings the percentage of remissions much closer to that of the malaria treatment, especially when it is considered that the material is not restricted to selected cases, and that early cases do not reach the infirmary. The remissions observed at the infirmary are as complete as those after malaria treatment. In order to estimate properly the actual status of the latter, the statistics of remissions should group separately the early and the old cases.

Semana Médica, Buenos Aires

2: 1409-1464 (Dec. 3) 1925

*Therapeutic Pneumothorax. A. Viton.—p. 1409. C'cn, p. 1474.
*Kidney Function Test in Children. Casaubón and Winocur.—p. 1431.
"Sanocrysin." E. M. Fernández Rey.—p. 1435.
Fatty Acids of Cod Liver Oil and Chaulmoogra in Treatment of Leprosy and Tuberculosis. O. Calcagno.—p. 1435.
Acute Pneumococcus Tonsillitis; Complications. Franchini.—p. 1450.
The Teaching of Medicine. J. T. Lewis.—p. 1451.
Importance of Chemistry and of Physiochemistry in Modern Biology. C. E. Pico.—p. 1455.

2: 1465-1516 (Dec. 10) 1925

Bronchial Amebiasis. J. J. Viton.—p. 1465.
Blood Groups. F. A. Deluca.—p. 1467.
Diagnosis of Supranuclear Paralysis of the Motor Oculi Nerves. E. Adrogué.—p. 1470.
Conservative Treatment of Ruptured Uterus. M. L. Pérez.—p. 1472.
Light Free from Red Rays. E. Adrogué and J. Lijó Pavia.—p. 1501.
Certain Operations That Do Not Require an Assistant. R. F. Hernández.—p. 1513.
Progress of Plasmogenesis in Mexico. V. Delfino.—p. 1514.

Complications of Artificial Pneumothorax.—Viton discusses therapeutic pneumothorax from all angles, especially the indications and the mishaps with it, emphasizing that we must not fear it too much nor be overconfident with it. A pleural effusion developed in 25 per cent of his fifty-eight cases. He ascribes this small proportion to the fact that he uses air instead of nitrogen for the insufflation. Fourteen of the fifteen with this complication were women. In three cases there was amaurosis for a few minutes to eight hours, indicating gas embolism, but it subsided then harmlessly. He has never encountered an instance of pleural shock from the puncture alone, but in one case, after three insufflations, intense dyspnea developed from a spontaneous pneumothorax, with a secondary valve formation, and the pleura kept filling up with air, fatally suffocating the patient, notwithstanding continuous aspiration of the air by reversing the apparatus. In one man of 60 the pneumothorax had been borne well and the condition had improved, when symptoms of heart failure developed, with somnolency and edema, and he died the thirty-third day. Adhesions pulling on the right auricle or aorta induced heart symptoms in a few patients, compelling interrupting of the pneumothorax. One woman developed uncontrollable vomiting, although the pulmonary lesions had improved remarkably under the collapse treatment. The maximal intrapleural pressure had evidently been responsible for the vomiting and also for the fine and permanent therapeutic results. With pleural effusion complicating the collapse therapy, he punctures if the effusion is not promptly resorbed. If it becomes purulent, it must be drained, bearing in mind that the streptococcus is more dangerous than the pneumococcus. Tuberculin is an important aid in these complicating pleural effusions. When the pleura is inflamed, it absorbs the gas less rapidly. Twenty instructive cases are described in detail. One case teaches the evil consequences of allowing a tuberculous pleurisy with effusion to run its course without puncture, under merely expectant treatment. The resulting adhesions prevent therapeutic pneumothorax later.

Elimination of Phenolsulphonphthalein in Normal Children.—Casaubón and Winocur applied this kidney function test in forty normal children over 6 years old. They injected the stain intramuscularly, twenty to thirty minutes after the child had drunk 200 to 300 cc. of water. The urine was then examined an hour and ten minutes afterward. The extreme range of elimination was from 50 to 85 per cent (one case each). In 52.5 per cent the figure was 66, and the average of all was 69 per cent. They regard these figures as the normal standard for all except very young children.

Archiv für Kinderheilkunde, Stuttgart

77: 161-240 (Feb. 27) 1926

*Antiscurvy Value of Milk. Reyher.—p. 161.
Treatment of Congenital Syphilis. J. Hescheles.—p. 194.
*Sugar Determination in Milk. G. Bruhns.—p. 209.
Treatment of Diabetes in Children. R. Wagner.—p. 212.

Antiscurvy Value of Milk.—Reyher never observed scurvy in guinea-pigs fed with human milk. They died of inanition. The antiscorbutic value of cow's milk depends on the fodder. Boiled milk of an originally high vitamin content may give better results than raw milk with a low content.

Sugar Determination in Milk.—Bruhns comments on the marked difference between the results of determination of sugar by reduction or polarization in human milk. There may be some other polysaccharids present. Cow's milk gives identical results with both methods.

Archiv für Verdauungs-Krankheiten, Berlin

36: 333-458 (Feb.) 1926

*Pituitary Extracts and Stomach. Schoendube and Kalk.—p. 333. C'cn.
*Cholesterol in Bile and Food. H. Salomon and L. L. Silva.—p. 353.
Disturbances After Gallbladder Surgery. A. Ohly.—p. 360.
*Edema and Water Production. S. Mello.—p. 372.
*Ulcerative Colitis. H. Grossfeld.—p. 384.
Nonsurgical Biliary Drainage. J. Daichowski and L. Rachlin.—p. 392
Palpation of Stomach and Intestine. J. Fleckel.—p. 406.
Ulcer Pain and Visceral Sensibility. L. Hirschberg.—p. 423.
Influence of Bile on Movements of Colon. H. S. Lurje.—p. 429.

Pituitary Extracts and the Stomach.—Schoendube and Kalk have been studying the motility of the stomach in man and animals. Pituitary extracts have a double phase of action: the tonus and peristalsis are diminished at first and increased later. They believe that the sympathetic is irritated in the first phase, the Auerbach plexus in the second. They do not believe that histamine is responsible for the action. In direct observations on animals, the first phase was associated with a local anemia.

Cholesterol in Bile and the Food.—Salomon and Silva found even in long periods of a diet free from cholesterol the elimination of a few milligrams of cholesterol by the bile.

With a diet rich in cholesterol, the elimination was much larger without reaching the amount ingested. This occurred especially after previous deficit of cholesterol.

Edema and Water Production.—Mello points out that water forms in the body by addition of oxygen from the air. Therefore the weight of the patient may increase although the weight of urine and feces surpasses that of the intake of food and fluid. This—and not the restriction of insensible perspiration—accounts for the occasional gain in weight of fasting nephrectomized and of hibernating animals, as well as for many clinical observations.

Ulcerative Colitis.—Grossfeld makes a phenolized autovaccine and injects subcutaneously 1, 2 and 3 cc. of a suspension containing 100 millions of germs per cubic centimeter. The intervals are from three to six days—according to the general reaction. After this he injects the same volumes of an emulsion containing 1 billion germs per cubic centimeter. He interposes milk injections if the fever reaction is too weak. The diet should consist chiefly of proteins—not of vegetables.

Beiträge zur klinischen Chirurgie, Tübingen

135: 391-568, 1926

Arteriomesenteric Occlusion. G. Petrén.—p. 391.
Rupture of the Esophagus. G. Petrén.—p. 398.
Myelography. G. Buttner.—p. 404.
*Roentgen Treatment of Laryngeal Cancer. R. Prinz.—p. 426.
*Head's Zones in Abdominal Diseases. W. v. Gaza.—p. 433.
*Vital Staining of Sarcoma. W. v. Gaza.—p. 476.
Heredity in Colloid Goiter. K. H. Bauer.—p. 512.

Roentgen Treatment of Laryngeal Cancer.—Prinz treated with roentgen rays two patients with histologically diagnosed carcinoma of the larynx. One of them died almost six years afterward from an intercurrent disease. The larynx was healthy. The other—a young woman with metastatic infiltration of lymph nodes—is clinically healthy after six years, and has borne a child.

Head's Zones in Abdominal Diseases.—Gaza confirms the presence of hyperalgetic skin zones or patches in organic abdominal diseases, but only shortly after a severe colic. The majority of the zones of hyperalgesia are due only to functional disturbances. Dermographism, spastic colitis and dysmenorrhea are common in such patients.

Vital Staining of Sarcoma.—Gaza injected trypan blue and lithium carmine into a sarcoma of the tibia. Only the fibroblasts and macrophages of the stroma accepted into their cytoplasm the dye injected—not the living sarcoma cells. Diffuse staining of the cell indicates its death. Only such cells were attacked by leukocytes and macrophages.

Dermatologische Wochenschrift, Leipzig

82: 249-288 (Feb. 20) 1926

Peripheral Changes in Skin Around the Patches in Psoriasis, Etc Woronoff.—p. 249.
*Gangrene of Scalp from Bleaching the Hair. K. v. Berde.—p. 257.
Present Status of Treatment of Skin Diseases. Bruck.—p. 259.
*Toxic Action from Bismuth Treatment. O. Fischer.—p. 268.
Urethritis (Male) from Larvae of Niptus Hololeucus.. Sternberg.—p. 271

Extensive Gangrene of the Scalp After Bleaching the Hair.—Von Berde gives an illustration of the gangrene of the entire back of the head in a woman of 26 who had had her red hair blondined by a professional hairdresser ten days before. The woman had long been subject to eczema. The label on the empty bottle specified 30 per cent hydrogen dioxide. The woman wore a felt hat home, thus steaming the region further with the fumes of the chemical while the braids of hair were pressed by the hat on the irritated scalp. The pain was so severe as the woman walked home that she fainted. The region healed over in the course of three months, leaving a cicatricial bald area, 9 by 10 cm. in size.

Enteritis from Bismuth Poisoning. — Severe ulcerative enteritis developed after a course of seven intravenous injections of a bismuth preparation. The patient was a young woman with spirochetes in a throat lesion and positive Wassermann reaction. The syphilitic lesions subsided under the bismuth, and the intestinal process healed in another month. There were no manifestations of a toxic action from the bismuth outside of the intestines. Fischer theorizes that the bowel must have contained an unusual amount of hydrogen sulphid on the day of the last injection, and this entailed elimination of exceptional amounts of the bismuth through the bowel walls.

Deutsche medizinische Wochenschrift, Berlin

52: 349-388 (Feb. 26) 1926

*Provocation of Occult Bleeding. I. Boas.—p. 349.
*Experimental Cancer. R. Erdmann.—p. 352.
Multiple Sclerosis. G. L. Dreyfus and R. Hanau.—p. 354. C'td.
*Sterilization with Arsphenamin. R. Prigge.—p. 356.
Insulin Treatment. H. C. Hagedorn and C. Holten.—p. 358.
Fractioned Examination of the Stomach. H. H. Hess.—p. 359.
Endoscopy and Gastroscopy. W. Sternberg.—p. 361.
Psychotherapy in Organic Diseases. Staudacher.—p. 362.
Tuberculosis and Sports in Childhood. Schneider.—p. 364.
Dietetic Treatment of Constipation. Gewecke.—p. 366.
The Angina Pectoris Question. L. F. Dmitrenko.—p. 366.
Psychology and Biology of Ants. H. Eidmann.—p. 370.
Vitamins E. Nassau.—p. 383. C'cn.

Provocation of Occult Bleeding.—If the tests for occult bleeding are negative in spite of a suspicion of an ulcer in the stomach or duodenum, Boas recommends provocation by heat. He applies to the epigastrium, with short intervals, a hot (not warm) dressing every twenty minutes for two days. The method has also therapeutic value.

Experimental Cancer.—Erdmann injected rats with india ink and filtrates from Flexner-Jobling carcinomas. Some of these animals, as well as those in which the filtrate had been substituted by the tumor residue treated with chloroform, reacted with tumors. She also observed that peculiar endotheloid round cells emigrated from the spleens of normal animals cultivated in the plasma with tumor extracts. Such cells were not found in spleens from animals with tumors She concludes that there is a close relation between tumors and the endothelial apparatus. The tumors take better if the latter is blocked.

Sterilization with Arsphenamine.—Prigge found extremely rarely spirochetes in the brain of mice after spontaneous recovery from recurrens and never after sufficient doses of neo-arsphenamine. Buschke's divergent results were due to the subtherapeutic doses he used. In such animals the spirochetes are present not only in the brain, but also in the blood. He found no indication whatever of any lowering of the immunity by arsphenamine in mice infected with recurrens nor in syphilitic rabbits.

Jahrbuch für Kinderheilkunde, Berlin

111: 251-379 (Feb.) 1926

*Congenital Syphilis and Irritation. R. Fischl.—p. 251.
*Incubation of Tuberculosis. B. Epstein.—p. 270.
Brain Activity of the New-Born. A. Peiper.—p. 290.
Gastrospastic Syndrome. K. Ochsenius.—p. 315.
*Scarlet Fever and Measles. F. Szirmai and B. Jacobovics.—p. 331.

Congenital Syphilis and Irritation.—Fischl publishes evidence for the first localization of manifestations of congenital syphilis in irritated parts of the skin. Staphylomycosis furnishes an especially clear example in its interrelation with syphilis.

Incubation of Tuberculosis.—Epstein found in children—without regard to age—an ante-allergic period of three to seven weeks with intracutaneous or subcutaneous tests, and of four to ten weeks with the cutaneous method. This constancy of the incubation period in man differs from that in animals, where it varies in inverse proportion with the doses of infecting material. There were no other symptoms in these children except the tuberculin reactions.

Etiology of Scarlet Fever and Measles.—Szirmai and Jacobovics repeated the work of di Cristina and Caronia and their collaborators. They regret to be unable to confirm any of their claims. In spite of this, they are not yet convinced of their futility, because of the absolute good faith of the latter authors, and because of their results in prevention of scarlet fever and measles.

Medizinische Klinik, Berlin

22: 279-316 (Feb. 19) 1926

*Syphilitic Aortitis. C. Bruhns.—p. 279.
Dyspnea. Goldscheider et al.—p. 282. C'cn.

Tuberculosis, Carbohydrates and Diabetes. P. Hecht.—p. 285.
Preparations from Gonads. T. Brugsch and H. Rothmann.—p. 287.
*Toxic Injury from Cactus Spines. J. Löwy.—p. 290.
Tetrachlorphenolphthalein. F. Reiche.—p. 291.
Examination of the Apices. E. Czyhlarz and E. Pick.—p. 292.
Gestures in Psychotherapy. H. Schwerdtner.—p. 293.
*Menstruation in Hay-Fever. R. Joachimovits.—p. 294.
*Quinine Resistant Lipases. W. Löwenberg and D. Kwilecki.—p. 296.
Occupational Actinomycosis. J. Ritter.—p. 298.
Combating the Predisposition. L. Gelpke.—p. 300.
Cancer and Its Treatment. O. Strauss.—p. 302. C'cn.

Syphilitic Aortitis.—Bruhns examined 200 syphilitic patients who had been infected from four to forty years before. He found that 23-38 per cent of them had an unsuspected syphilitic aortitis. Early and energetic treatment is indicated.

Toxic Injury from Cactus Spines.—Löwy observed local deforming arthritis and nervous changes in a finger which had been injured by thorns of a cactus.

Menstruation in Hay-Fever.—Joachimovits confirms the occurrence of menstrual disturbances in hay-fever.

Quinine Resistant Lipases.—Löwenberg and Kwilecki confirm the almost constant occurrence of a quinine-fast lipase in the blood with inflammation of the gallbladder or liver, or grave nephritis. The majority of patients with cancer metastases in the liver, or liver congestion, and two out of eight pernicious anemia patients also gave positive findings. Other acute and chronic abdominal diseases—with few exceptions—gave negative results.

Münchener medizinische Wochenschrift, Munich

73: 269-310 (Feb. 12) 1926

Scrofula. F. Jamin.—p. 269.
Treatment of Cancer. E. Philipp and P. Gornick.—p. 272.
Cultivation of Gonococci. I. W. Hach.—p. 275.
Food and Course of Diseases. E. P. Hellstern.—p. 277.
Sulphur Treatment of Furunculosis. F. v. d. Hütten.—p. 278.
Prevention of Eclampsia. J. Wieloch.—p. 279.
*Baumm's Metreurynter. S. Sztehlo.—p. 281.
Tamponade of the Uterus. Wiemer.—p. 284.
Fractures of the Vertebrae. M. Schieszl.—p. 285.
Goiter in Children. Heid.—p. 287.

Baumm's Metreurynter.—Sztehlo recommends Baumm's bag made from a hog, calf or sheep bladder. It is introduced folded into the cervical canal, and is then half filled with glycerol. The latter attracts water and distends the bag; part of the glycerol irritates the uterus by osmosis.

Wiener klinische Wochenschrift, Vienna

39: *233-264 (Feb. 25) 1926*

Obesity. J. Bauer.—p. 233.
Accentuated Diastolic Heart Sound. M. Sihle.—p. 237.
*Thrombosis of Splenic Artery. K. Blum.—p. 239.
Nevus Sebaceus. E. Eitner.—p. 242.
Water Metabolism. W. Falta.—p. 243. C'cn.
Immunology and Epidemiology. W. Böhme.—p. 246. C'tn.
Treatment of Facial Paralysis. A. Fuchs.—p. 248. C'tn.
Injuries of Eyes. H. Lauber.—p. 250.
Venereal Diseases and Matrimony. E. Finger. Supplement.—pp. 1-8.

Thrombosis of Splenic Artery.—Blum's patient had pains in the left hypochondrium, enlarged spleen, polycythemia and leukocytosis with shifting to the left (Arneth). Thrombosis of the artery was found in the removed spleen. The polycythemia and a shifting to the left persisted after splenectomy, and only a few Howell-Jolly bodies appeared in the blood.

Zeitschrift für Kinderheilkunde, Berlin

40: *623-737* (Feb. 20) *1926*

*Temperature in Measles. H. Orel.—p. 623.
*Thirst in Breast-Fed Infants. H. Hirsch.—p. 629.
Exfoliative Dermatitis. O. Ullrich.—p. 644.
*Sunlight and Vitamins. H. Vollmer.—p. 655.
*Correlation of Food. E. Nassau and S. Schaferstein.—p. 659.
*Calcium in Breast Milk. E. Stransky.—p. 671.
*Incontinence of Stools. S. Weissenberg.—p. 674.
Sequels of Epidemic Encephalitis. L. Kwint.—p. 678.
*Familial Jaundice and Cirrhosis of the Liver. Bischoff and Brühl. —p. 702.
Irradiation of Food. I. Serebrijski et al.—p. 716.
*The Vaginal Flora. G. Soeken.—p. 727.

Temperature in Incubation Period of Measles.—Orel recorded the temperature in twenty-six children who had been infected by contact with measles patients. It was normal in the majority of them at the time of the infection as well as later, in the incubation period. Other causes were responsible for the higher temperature in some of them.

Injury from Lack of Water in the Breast Fed.—Hirsch describes the symptoms of dehydration fever which occur most frequently on the third day of life, but may account also for certain postoperative disturbances. The infant's skin is dry, keeps the folds, the tongue is red, granular, resembling corned beef. The mouth is dry, the fontanels, as well as the abdomen, are depressed, the urine and stools dark colored. The voice is hoarse; the infant makes licking movements and drinks eagerly the offered water. Cerebral symptoms, especially vomiting, may predominate—similar to heat stroke—and rectal administration of fluid may become necessary. It should not be forgotten that an infant needs 150 Gm. of water daily per kilogram of body weight.

Sunlight and Vitamins.—Two—probably univitelline—twins had grave rickets notwithstanding a previous diet rich in vegetables and cod liver oil. Vollmer treated them for fourteen days with artificial sunlight reenforced by administration of eosin. The food contained practically no vitamin C. After this he added vitamins to the food of one of the twins. The other recovered under continued irradiation more rapidly than the one with irradiation plus vitamins.

Correlation of Food.—Nassau and Schaferstein show that it is irrelevant to ascertain the significance of single constituents of the food for pathologic intestinal processes, and other disturbances. Only the reciprocal proportions of several elements of the food are comparable. A pure solution of sugar is rapidly resorbed and cannot do much harm. Addition of proteins or, still more, of fat and, most of all, of cow's whey retards the resorption of sugar and favors fermentation. Human milk is indifferent.

Calcium in Breast Milk.—Stransky applied Kramer and Tisdall's method to human milk. He found about 0.045-0.06 per cent of calcium oxide before nursing and 0.025-0.04 per cent after nursing.

Encopresis.—Weissenberg suggests this term—analogous to "enuresis"—for incontinence of stools. The pathogenesis of both is to a certain extent similar. Mental causes predominate—bad dreams and fright. An enema given before going to bed is helpful.

Familial Jaundice and Cirrhosis of the Liver.—Bischoff and Bruhl observed cirrhosis of the liver in three sisters. The splenomegaly, jaundice, and periodically clay-colored stools appeared at the age of 11, and the physical development was retarded. The necropsy findings in the oldest sister are reported.

The Vaginal Flora.—Soeken made vaginal smears from a number of girls. Cocci predominate in children except infants. After the eleventh year, vaginal bacilli were found in the majority. These were never encountered in the absence of all the signs of puberty, but they appeared before menstruation. She found that the complete change of the flora takes place within one week.

Zeitschrift für klinische Medizin, Berlin

103: *1-159* (March 3) *1926*

Classification of Anemias. G. Holler.—p. 1.
Alveolar Gas Tension. J. Benczúr and I. Berger.—p. 86.
*Fixation Abscess in Treatment of Sepsis. L. Jacob and H. Wendt.—p. 92.
*Mushroom Poisoning. W. Steinbrinck and H. Münch.—p. 108.
Chronaxia Determination. E. Blumenfeldt.—p. 147.

Fixation Abscess in Treatment of Sepsis.—Jacob and Wendt injected 2 cc. of oil of turpentine subcutaneously in the side of the thigh. This causes immediately or within two days a painful infiltration which softens in four to twelve days. The abscess should be lanced only if there is fluctuation. They had fine results in pneumococcus and staphylococcus septicemia and in cerebrospinal meningitis of the subacute type. A second fixation abscess is sometimes necessary.

Mushroom Poisoning.—Steinbrinck and Münch deal with the botanical, clinical and therapeutic aspects of mushroom poisoning. Profuse lavage of the stomach and intestine with a suspension of charcoal is indicated, even if the poisoning occurred the day before Remnants of the mushrooms were frequently found with this. Repeated intravenous infusions of 300-500 cc. of 10-20 per cent sugar solutions, with eventual addition of calcium salts, are very useful. Camphor is somewhat dangerous because of the disturbance of liver function, which may prevent its synthesis to glycuronic acid. Caffeine is to be recommended. It is still questionable whether insulin should be added, since mushroom poisoning also entails hypoglycemia.

Zeitschrift für urologische Chirurgie, Berlin

19: 127 252 (March 1) 1926

*Endocrines After Vasectomy C Rossi.—p 127.
Urine Retention in Children F Rost —p 148
*Ambard's Coefficient J Goldberger —p 153
*Treatment of Pyelitis G v Pannewitz —p 173
Gangrenous Cystitis R Fronstein —p 181
Leukoplakia of Urinary Tract J von Borza —p 194.
Cancer of Testicle A Weiser —p 201
Tumors of Scrotum S Rubaschow —p 218
Italian Urologic Congress —p 242

Endocrines After Vasectomy.—Rossi resected the vas deferens in twelve dogs and studied the changes in the endocrine glands thereafter The number of eosinophils in the pituitary as well as the lumen of blood vessels were increased in the first seven months after the operation The follicles of the thyroid and their contents decreased, while the interfollicular epithelia proliferated for about eight months. The connective tissue of the prostate was hypertrophic and the glandular portion atrophic for about the same period. Lymphoid cells accumulated at certain points of it. The testis was swollen for about forty days The inner rows of sperma cells degenerated in the first two months, but the basal row persisted and led to regeneration The spermatozoa never disappeared. There was only a slight increase in the interstitial cells The pineal gland was enlarged only in one of six dogs The parathyroids, mammae and suprarenals showed no changes

Ambard's Coefficient.—Goldberger recommends the determination of Ambard's coefficient in urologic practice. Careful work is necessary

Treatment of Pyelitis.—Pannewitz recommends a sudden change of the actual reaction of the urine in treatment of pyelitis With an acid reaction, an alkalinizing diet and intravenous injections of sodium bicarbonate may help With alkaline reaction of the urine, an acid producing diet, acids by the mouth, and methenamine intravenously should be given.

Zeitschrift für Urologie, Leipzig

20: 81 160, 1926

Hydronephrosis with Hematuria. J. Gottlieb —p 81.
Echinococcus of the Kidney K Fillenz —p 96
Tuberculosis of Dystopic Kidney H Bock —p 101.
*Diagnosis of Bladder Tumors R Picker —p 105
Cure of Gonorrhea R M Fronstein —p 112
Urethral Hemorrhage R Demel —p. 125.

Diagnosis of Bladder Tumors.—Picker observes roentgenologically the mechanism of evacuation of the bladder filled with a solution of sodium bromide. After this, he fills the bladder with air and continues the observation

Zentralblatt für Chirurgie, Leipzig

53: 449 512 (Feb 20) 1926

Invagination Ileus J Hohlbaum —p 450
*Rheometry of Brain Tumors Lihotzky —p 452
Periarterial Sympathectomy. N Sawkoff —p 458
Transparency of Hydrocele E Becker —p 462.
Autohemotherapy W. Mull —p 463
Rubber Tube Drainage G Lotheissen —p 467.
Makka's Line A Nussbaum —p 468
*Postoperative Ischuria F Lampert —p 469

Localization of Brain Tumors by the Electric Resistance of the Growth.—Lihotzky surveys the further good experiences with A. W. Meyer's rheometric method of detecting brain tumors which are not palpable He measures by means of a needle electrode and Wheatstone bridge the resistance to the electric current. With his apparatus, it was 600 ohms in the brain tissue, 280-320 in the tumor, and 60-80 in the cerebrospinal fluid.

Postoperative Ischuria.—Lampert uses 1 cc. of a 1 per cent solution of pilocarpine in postoperative retention of urine. Intravenous injection is necessary. A necessity for keeping the intestine in repose is a contraindication for the pilocarpine.

Zentralblatt für innere Medizin, Leipzig

47: 161-184 (Feb 20) 1926

*Tuberculosis Campaign and the Practitioner. G. Zickgraf —p. 162.

Tuberculosis Campaign and the Practitioner.—Zickgraf criticizes the prevailing attitude of the central welfare committee. Even the smallest organizations of welfare amateurs and every other possible factor are encouraged to cooperate; the practitioner alone is left out. His duty is only to make the diagnosis. After that, the sanatorium and then the social service will take care of the tuberculous subject. He deplores the propaganda for consideration of hospitals as the only way of good treatment. The patient's opinion on the previous treatment and diagnosis is taken seriously by the hospital physicians—because of their ignorance of real conditions in the world outside—and utilized for transferring responsibility in therapeutic failures to the practitioner. The social service nurses are another factor promoting an antagonism between the practitioner and the patient—not to the advantage of the campaign against tuberculosis.

Prophylaktitcheskaia Medizyna, Kharkoff

5: 1 170 (Feb) 1926 Partial Index

*Lipoids in Serologic Tests D Grineff and Baranova —p 14.
*Diagnosis of Relapsing Fever and Malaria I. Mishtchenko —p 20
*Oral Vaccination Against Typhoid M. Solovieff and B Gandelsman —p 24
Right of Privileged Communications and Venereal Diseases. N. Drapkin et al —p 84.

Significance of Lipoids in Serodiagnosis of Syphilis.—Grineff and Baranova conclude from their research that the serologic reactions in syphilis do not depend on chemical changes of the serum, but on the disturbed stability of its elements (proteins, lipoids and salts) affecting the colloid balance The instability of the colloids in syphilitic serums is probably induced by a relative increase of cholesterol, and decrease of phosphatids.

Epinephrine Injections in Relapsing Fever and Malaria.—Mishtchenko recalls Zlatogoroff's epinephrine test in relapsing fever A dose of 0 5 cc of 1:1,000 epinephrine solution is injected subcutaneously in patients with relapsing fever, and the temperature is taken every two hours. If the temperature does not rise, the injection is repeated forty-eight hours later. If the temperature continues within normal range after the second injection, this is accepted as a negative reaction. With a positive reaction, fever occurs within twelve hours after the injection Personal experience has confirmed that relapses need not be feared as long as the epinephrine test is negative. The positive test was most pronounced between the fourth and seventh day following an attack. Contraction of the spleen and consequent expelling of specific spirochetes into the general circulation may explain the positive response to the epinephrine. The test was always negative in cases of reinfection. The epinephrine test was valuable also in diagnosis of malaria treated recently or insufficiently. The mechanism was the same, the expelling of plasmodia into the blood. The injection seemed harmless.

Oral Vaccination in Typhoid.—The method was applied by Solovieff and Gandelsman in places with endemic typhoid fever They used cultures of Shiga bacilli, instead of bile, for sensitization of the intestine. The liquid vaccine contained agar cultures of typhoid and dysentery bacilli, killed by heat There were 70 thousand millions of typhoid bacilli and 30 thousand millions of Shiga bacilli in 5 cc of the vaccine To conserve the vaccine, phenol was added, and peppermint to improve the taste. The vaccine was given fasting; 5 cc. to adults; 2 5 cc. to children below 10; 1.5 cc. to those below 5 No by-effects were noted with this method. The oral vaccination appeared as effectual as the subcutaneous Typhoid developed after vaccination only among those treated during the incubation period. Prophylactic vaccination by this method checked the further spread of the disease.

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PROGRESS IN THE TREATMENT OF SKIN DISEASES*

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In the third volume of the *Jahresbericht ueber Haut- und Geschlechtskrankheiten* for the year 1923, edited by Otto Sprinz and printed last year in Berlin, references to the therapy of skin diseases alone numbered approximately a thousand articles, including monographs and books, published throughout the world in one year. These are carefully arranged and classified under various headings, beginning with general therapy and listed systematically to conform as nearly as is possible to the various modalities employed today in dermatotherapy. Among them will be found the following names, most of them hyphenated with the word "therapy"—a list which, if quality and quantity are taken seriously, must strike terror to the heart of the beginner in our specialty: medicinal-, tuberculosis-, organo-, protein-, unspecific blood and serum-, specific serum-, vaccine-, cosmetic-, roentgen-ray-, radium-, artificial light-, sunlight-; high-frequency, diathermy, electrodesiccation and coagulation, electrolysis, refrigeration sympathectomy; to these one might add miscellaneous therapy, including surgery, balneotherapy, psychanalysis, and that form of refined suggestive therapy which induces wealthy, bald-headed men to rest and meditate under an ultraviolet halo. at certain prescribed intervals.

Imposing as this array must seem to the uninitiated, it is a fact that the modern dermatologist is frequently called on to employ one or several of these tools of his calling as routine measures in everyday practice. Compare this with the state of affairs twenty-five or thirty years ago: the old pun about skin diseases falling into two groups—those that ought to respond to sulphur salve and, if they don't, those that *will* respond to zinc salve—gave rise in many a medical meeting to laughter and ridicule, strongly tinged with an undercurrent of belief in the purport of the alleged witticism. Arsenic, I believe, completed the old-time triad on which the dermatologist was supposed to depend for his daily sustenance. But that arsenic even in those days fulfilled its mission is attested to by the occasional reports in old publications of such grave diseases as pemphigus and mycosis fungoides, cured with arsenic.

To one, like myself, who began the study of the specialty before the value of roentgen-ray therapy became generally known, mention of mycosis fungoides recalls a vivid picture of the utter hopelessness with which these patients were formerly regarded. Twenty years ago the victim was admitted to the hospital with reluctance (just as pemphigus patients are today), and often under strong protest on the part of the admitting physician or of the hospital director. Today the patient with mycosis fungoides is given a bed with some show of hospitality; roentgen-ray treatment, although it will not cure him of his disease, will almost invariably rid him of his cutaneous lesions for a varying length of time, stop his itching, permit him to gain in weight and strength, and in many instances prolong his life for years, enabling him to be about and to earn his living, often with very little discomfort.

Roentgen-ray therapy of this disease has changed the status of the victim from that of a hopeless, bedridden sufferer to a more or less hopeful, ambulatory patient, whose chief concern should be that the management and supervision of his malady be in the hands of one who understands mycosis fungoides with all its vagaries, and who is an expert roentgen-ray therapist. The late John A. Fordyce told of two patients whom he had treated in recent years with roentgen rays combined with intravenous arsphenamine injections, who had remained apparently cured during a period of three years, and who had no recurrences up to the time of his death, a year ago.

To cite examples of roentgen-ray therapy as an alleviative measure in this disease, I recall a man with a very extensive eruption, who was treated at the New York Skin and Cancer Hospital about fifteen years ago; his cutaneous lesions cleared up under roentgen-ray treatment, but he died during a period of remission, the necropsy revealing a large sarcoma of the kidney. About eight years ago, a middle-aged woman presented herself at the Vanderbilt Clinic with a widespread, infiltrated psoriasis; a short time later, some of the lesions became more elevated and infiltrated, assuming a dark brown tint; section revealed typical mycosis fungoides. Roentgen-ray treatment has held the disease in abeyance since that time, and although her skin never cleared up entirely, she was enabled to perform her ordinary household duties with comparatively little discomfort, up to the past year. Previous to Roentgen's discovery, this patient would have died miserably, within six months to a year. One of MacKee's patients has been under observation more than sixteen years, during which period occasional recurrences were readily controlled by irradiation.

Closely related to mycosis fungoides, from the standpoint of therapy, are the sarcoma of Kaposi, the leukemias, lymphogranulomas and kindred diseases. In early cases of sarcoma of Kaposi, in which the lesions are relatively small and not numerous, cures have been reported with roentgen-ray treatment, sometimes combined with arsenical medication. In extensive and especially in the long neglected cases which are occasionally encountered in patients immigrating from

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* Chairman's address, read before the Section on Dermatology and Syphilology at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

Russia and central Europe, roentgen-ray therapy, administered in massive doses of filtered radiation, will bring about absorption of infiltrations and tumors, relieve pain and prolong life; so that many of these unfortunates, instead of being bedridden for years and in ceaseless pain and discomfort, as they perforce had to be two decades ago, may now go about their business under relatively tolerable conditions.

In the various diseases of the hematopoietic system associated with cutaneous lesions, roentgen-ray therapy has completely revolutionized the older forms of treatment; although we cannot speak of cures, it is a fact that the judicious employment of roentgen rays as a palliative measure has done more for this class of patients than was formerly accomplished by all other known methods to afford relief. Rhinoscleroma may be cited as an example of a condition which, heretofore regarded as incurable, will today respond very favorably to roentgen-ray and radium therapy. Sigmund Pollitzer, I believe, was the first in this country to report a cure.

The initial therapeutic attack against melanosarcoma and melanocarcinoma of the skin and mucosae should be with roentgen ray and radium; the knife and the electrocoagulation current should be resorted to only after as much as is possible has been destroyed by means of radiotherapy. In the majority of patients with such melanotic tumors, the occurrence of metastases results in death, regardless of the methods of treatment; occasional cures have been reported from roentgen-ray and radium therapy; MacKee reports four cases as cured, without recurrence in from four to ten years after treatment. A few years ago, Howard Fox exhibited a little girl with a sarcoma of the temporal region, about the size of a walnut, which disappeared completely only four days after a single roentgen-ray exposure; the child unfortunately succumbed to metastatic growths a few weeks later.

I will not tax your patience with a recital of the many skin diseases which are amenable to roentgen-ray and radium therapy and in which palliation and cure reflect a very substantial progress in dermatotherapy; the ground has been thoroughly covered by George M. MacKee in his book. But I should like to dwell, for a moment, on advances in the treatment of two conditions especially: juvenile ringworm of the scalp, and angioma. The old treatment of tinea capitis, by means of manual epilation and the constant application of antiseptics, required anywhere from six months to three years to bring about a cure, the child meanwhile being kept out of school. Today, the actual time, by means of the Kienböck-Adamson technic, has been reduced to from seventeen to twenty-one days, the regrowth of hair taking place within three months. More than 1,500 children have been cured at the Vanderbilt Clinic by this method, without unfavorable results.

Angiomas, formerly treated by surgical methods, injections of hot water, cautery, electrolysis and the like, often necessitating the administration of repeated narcoses and frequently resulting in disfiguring scars, will respond to radium therapy with an outcome that seems magical in the excellence of its surgical and cosmetic results. Many types of angioma of the skin and mucosa which the surgeon of former days did not consider in the light of a possible surgical risk are today readily curable with radium. I wish the same could be said of the port wine mark, but thus far our efforts with the Kromayer lamp and with radium have met with only partly favorable results; I have seen only one cure. In the eradication of pigmented moles, especially the large, ugly looking elevated growths, no old method of treatment can begin to be compared with the freezing method with carbon dioxide snow, devised by William Allen Pusey. In many cases of the chronic, fixed type of lupus erythematosus, refrigeration often seems to be about the only agent capable of producing lasting results.

The treatment of cutaneous tuberculosis and of lupus erythematosus with injections of various gold compounds has aroused great interest among dermatologists. A preliminary report, together with a review of the European literature dealing with this subject, was recently published in the *Archives of Dermatology and Syphilology*, by Jay F. Schamberg and his associates. It is as yet too soon to speak of definite progress, but there is no question in the minds of those who have investigated the matter that the outlook for the near future is a very promising one. Some of our Viennese colleagues have reported very favorably on the use of a new tuberculin ointment in lupus vulgaris.

In the last few years, long strides have been made in the treatment of leprosy with the ethyl esters of chaulmoogra oil. In patients presenting early and relatively benign lesions we are beginning to look forward toward actual cures; I have at present four patients under observation, in whom extensive and deep-seated leprous infiltrations vanished completely under this treatment We are not as yet prepared to say, however, that long-standing and advanced cases of the disease are curable, in the strict sense of the word.

It seems to me that the older we get and the more patients we see, the less certain do we become in our diagnoses, and this applies especially to pemphigus. Only the other day I heard one of our older colleagues, a man practicing thirty-five years, say that he did not see much difference between some cases of pemphigus and some cases of Duhring's disease. To me, that statement seems a bit strong. I concede that it is at times difficult to differentiate the two diseases during a more or less hectic demonstration at a medical meeting; but to one who has such a patient under observation for several weeks, the true state of affairs ought to become manifest without difficulty. Distinct progress has been made in the last several years, in the treatment of certain types of pemphigus. Robert H. and William D. Davis have succeeded in curing a small number of cases with their intravenous iron cacodylate and subcutaneous coagulen injections; the late Grover W. Wende, employing their methods, has also reported very favorably. Good results have been reported by some, indifferent and poor results by others. What is the probable explanation for this variability of response to the same form of treatment? I think the explanation lies in the fact that not all the cases regarded as pemphigus are really pemphigus. Acute, bullous, septic pemphigus, a not uncommon disease in any large city with a proportionately high foreign-born population, is not, in my experience, amenable to any form of treatment; the disease is rapidly fatal. Subacute bullous pemphigus and pemphigus vulgaris occasionally respond to heroic doses of sustained arsenic medication; in pemphigus vegetans and pemphigus foliaceus we often observe periods of remission and exacerbation, the patients dying usually of exhaustion or some intercurrent infection. In speaking of these different clinical varieties, I realize that occasionally one might encounter two or three types of eruption in the same case.

Intravenous injections of quinine and of sodium bicarbonate solutions have, in the hands of some observers, produced promising results. In one respect, we have been lax in the management of these pitiful patients; I refer to our lack of Hebra's permanent bath, used so successfully in the European hospitals for the alleviation of the often intolerable pain and discomfort that characterize the bullous form of the disease. To sum up the situation, I think it can be truthfully said that the outlook is much better today than it was five years ago, and that the next few years will prove fruitful in our efforts to combat the different varieties of pemphigus.

That a knowledge of chemistry is of great value to the dermatotherapist of today is well exemplified by the work done by Udo Wile and his co-workers in the treatment of cutaneous and mental bromism, and by McBride and Dennie in their utilization of Ravaut's method of combating metallic poisoning. In connection with purely medicinal therapy, I cannot refrain from mentioning the case of a remarkable patient presented on several occasions before the New York Dermatological Society, a couple of years ago, by H. H. Whitehouse and Howard Fox. This patient was later also observed by Bedford Shelmire in Riehl's clinic in Vienna. The patient was a young man who presented a universally infiltrated and deeply pigmented skin; we were unable to make a clinical diagnosis, and microscopic study of a piece of his skin did not clarify the situation. The man went to Riehl's clinic, where another section was examined, resulting in the diagnosis of universal xanthomatosis of the skin. Injections of iodipin were administered, and the patient was cured.

It is difficult to resist the temptation to go on with the recitation of the many cutaneous conditions in which advances and improvements in treatment have been made in recent years. Time and space being valuable, permit me to mention only briefly the following illustrative examples: Hyperhidrosis and seborrhea oleosa, two very stubborn disturbances of glandular secretion and excretion, are amenable to roentgen-ray therapy. Keloids, in former days best left severely alone, may now be cured with roentgen rays and radium. The treatment of leukoplakia with electrodesiccation has proved to be quite successful, as William L. Clark demonstrated several years ago. Antimony and potassium tartrate injections are curative in granuloma inguinale. Intravenous injections of typhoid bacilli suspensions will cure large-spored ringworm infections of the beard, and of the scalp, as only recently demonstrated by Martin F. Engman. The persistent disseminate lesions of urticaria pigmentosa have, in a few reported instances, cleared up under roentgen-ray therapy, although we are not yet prepared to speak of cures. The widespread vascular lesions of angioma serpiginosum may be eradicated with the ultraviolet ray. The management of ivy poisoning described by Albert Strickler has been successful in the hands of numerous observers. Pilocarpine injections are occasionally of value in some types of parapsoriasis.

These miscellaneous citations serve to indicate the trend of modern dermatotherapy. They serve also to emphasize the obvious fact that the empiricism that in former years characterized the treatment of skin diseases has in a large measure given place to established scientific procedures, based on a much broader knowledge of medicine as a whole. I think it was Walter Highman who once said, "The dermatologist is an internist who knows the skin." What constitutes the real progress in the treatment of skin diseases today is the wide adaptation of the principles of general medicine to cutaneous pathologic changes. The constitution of the patient, his environment, the rôle played by focal infection, the blood chemistry, the problems of sensitization—these and many other factors are bound to play their important parts in this broad field of medicine.

That we are still only on the threshold of a vast unexplored domain, none of us will attempt to gainsay; but "confession is good for the soul"; and, as the German saying goes, aller Anfang ist schwer. Let us therefore console ourselves with the thought that the near future will be enriched by many a scientific contribution to dermatotherapy and that each contributor may profitably borrow a leaf from the books of our medical committees and "report progress."

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ERYSIPELAS

V. OBSERVATIONS ON THE ETIOLOGY AND TREATMENT WITH ERYSIPELAS ANTISTREPTOCOCCIC SERUM [*]

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Accumulated evidence pointing to the existence of a specific type of *Streptococcus hemolyticus* as the etiologic agent in erysipelas suggested that a serum made with this specific organism would be beneficial in the treatment of erysipelas. During the last year, an antiserum against this type of streptococcus has been produced and has been used in the treatment of cases of erysipelas. The results of the use of this serum are described in this paper.

The etiology of erysipelas was first studied by Fehleisen,[1] in 1883, and since that time active investigations have been conducted on the biology of *Streptococcus hemolyticus,* particularly by means of serologic methods. Type specificity within the large group of hemolytic streptococci has been a subject of intense study during the last thirty years. As a result of such studies, the causation of scarlet fever appears to have been definitely settled, and measures have subsequently developed for the prevention and cure of that disease. The work on opsonins by Ruediger,[2] Schorer,[3] Tunnicliff,[4] and Boughton,[5] and an important study of agglutination by Tunnicliff [4] suggested that a specific group of hemolytic streptococci was the etiologic agent causing erysipelas. Comprehensive investigations of Dochez, Avery and Lancefield [6] on the biology of the hemolytic streptococci with particular emphasis on agglutination and protection, strongly suggested that cultures of streptococci isolated from cellulitis, erysipelas, scarlet fever and septicemia differed among themselves antigenically, and possibly fell into individual groups. Recently, I [7] was able to demonstrate by means of agglutination and absorption that 91.2 per cent of erysipelas strains of hemolytic streptococci, isolated carefully from typical erysipelatous lesions, fell antigenically into one group, and that this group of streptococci could be readily differentiated by the same methods from strains of hemolytic streptococci isolated from scarlet fever, cellulitis, empyema, peritonitis, sinusitis, puerperal sepsis, tonsillitis and a number of other streptococcic infections.

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[*] From the Department of Bacteriology, School of Medicine and Dentistry, University of Rochester.

[1] Fehleisen: Die Aetiologie des Erysipels, Berlin, 1883.

[2] Ruediger, G. F.: Further Studies on Streptococcic Infections, J. A. M. A. **46**: 108 (Jan. 13) 1906.

[3] Schorer, E.: Am. J. M. Sc. **134**: 728, 1907.

[4] Tunnicliff, Ruth: J. Infect. Dis. **4**: 304, 1907; **5**: 268, 1908; Further Studies on the Specificity of Streptococci, J. A. M. A. **75**: 1339 (Nov. 13) 1920.

[5] Boughton, T. H.: Tr. Chicago Path. Soc. **8**: 24, 1909; J. Infect. Dis. **7**: 110, 1910.

[6] Dochez, A. R.; Avery, O. T., and Lancefield, R. C.: J. Exper. Med. **30**: 179 (Sept.) 1919.

[7] Birkhaug, K. E.: Proc. Soc. Exper. Biol. & Med. **22**: 292, 1925; Bull. Johns Hopkins Hosp. **36**: 248 (April) 1925.

By means of local passive immunity, Rivers and Tillett[8] successfully demonstrated that small areas of skin infiltrated with an immune monovalent streptococcic serum produced local protection against the culture of hemolytic streptococcus employed for the production of the serum, and that normal serum or beef infusion broth offered little or no protection against the injurious activity of the injected hemolytic streptococci. These authors concluded that the local passive immunity conferred by the immune serum naturally suggested the possible treatment of erysipelas by infiltrating the healthy tissues in the immediate vicinity of the erysipelatous margin with immune serum, on the assumption that when the infection spread to the prepared zone it would meet refractory tissues and be unable to progress farther. These studies I[9] extended in order to determine possible antigenic relationships between erysipelatous and nonerysipelatous strains of hemolytic streptococci. It was demonstrated, by means of intradermal infiltration of the skin of susceptible rabbits with immune erysipelas serum, twenty-four hours previous to the injection of hemolytic streptococci of erysipelas and nonerysipelas origin, that the erysipelas serum offered adequate protection against 93 per cent of cultures of erysipelatous streptococci, and that almost no protection was offered by the erysipelas serum against the injurious action of nonerysipelatous hemolytic streptococci.

In subsequent studies on the experimental production of erysipelas in rabbits, I[10] was able to demonstrate that intracutaneous inoculation of hemolytic streptococci isolated from human cases of erysipelas produced typical erysipelas-like lesions in the skin of normal and susceptible rabbits. The pathologic picture of the erythematous and diffuse lesions produced was strikingly similar in nature to that seen in human cases of erysipelas. Again, it was found that intracutaneous infiltration of mixtures of immune erysipelas serum and hemolytic streptococci of erysipelas origin afforded local protection against the injurious action of the streptococci, and that normal rabbit serum or immune erysipelas serum heated at 60 C. for thirty minutes failed to protect the skin against the harmful effects of the inoculated erysipelatous streptococci. Further, it was demonstrated that intravenous or subcutaneous administration of large doses of immune erysipelas serum protected the animal against lethal doses of hemolytic streptococci isolated from erysipelas, when the serum was injected twenty-four hours before the bacterial inoculation. Normal rabbit serum or immune erysipelas serum heated at 60 C. for thirty minutes offered no protection against the lethal dose of erysipelatous streptococci. No local or general protection was offered by the immune erysipelas serum against the harmful action of hemolytic streptococci isolated from nonerysipelas sources, except in instances of irregular interagglutination of nonerysipelas streptococci with the immune erysipelas serum. At that time it was found that intradermal, intravenous and intramuscular injections of large doses of erysipelas serum offered distinct promise for the specific treatment of the disease in man.

In the study of toxin production of *Streptococcus erysipelatis*, I[11] found that a skin test dose of 0.1 cc. of a 1:1,000 dilution of erysipelas toxic filtrate produced in the skin of susceptible persons a lesion similar to that observed in the Schick and Dick tests. Complete neutralization of such a lesion was obtained by mixing the skin test dose with an equal amount of convalescent erysipelas serum, or 0.001 cc. of erysipelas antistreptococcic rabbit or donkey serums. It was also demonstrated that during the acute stages of erysipelas the patient's blood serum and urine contained a toxic substance, similar in nature to the toxic filtrate produced by *Streptococcus erysipelatis*, which was completely neutralized by convalescent erysipelas serum and which disappeared from the patient's blood serum or urine as soon as from twelve to thirty-six hours after the intramuscular administration of from 25 to 100 cc. of erysipelas antistreptococcic rabbit or donkey serums. Aided by these demonstrations of specific relationship between *Streptococcus erysipelatis* and erysipelas. I was led to believe that the production of a highly antitoxic and possibly bactericidal serum would accomplish curative results.

SPECIFIC TREATMENT OF ERYSIPELAS WITH ANTISTREPTOCOCCIC SERUM

The first curative antistreptococcic serum was made by Charrin and Roger,[12] in 1895. Cultures of streptococci isolated from erysipelas were grown in bouillon for ten days. At the end of incubation, the bouillon was concentrated by evaporation to one tenth of its original volume, placed in the autoclave and exposed to 115 C. In this manner, the authors believed they had preserved the original bacterial substance and its toxic products. This substance was injected intravenously in a mule, the average dose being 30 cc., injected every other day, until a total of 240 cc. of the concentrated, or 2,400 cc. of the original volume, was injected. Fifteen days after the last injection, the mule was bled. A patient severly ill with puerperal septicemia, without peritoneal localization, was injected subcutaneously on three successive days with a total of 41 cc. of the serum. A marked clinical improvement followed the third injection, and on the fourth day the temperature became normal. In rapid succession followed the production of antistreptococcic serums by Marmorek,[13] Aronson,[14] Moser,[15] Savchenko[16] and numerous other investigators, and clinical results were compiled of distinct therapeutic importance, particularly in the treatment of scarlet fever. More recently, attempts have been made by Lavender[17] and Goresco and Popesco[18] to treat erysipelas with antistreptococcic serum; and the results obtained, particularly by Goresco and Popesco, were quite striking in the amelioration of the patiens's toxic depression, even when the temperature remained elevated.

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[13] Marmorek, A.: Compt. rend. de Soc. de biol. **2**: 123, 1895; Bull. Acad. de méd. Paris **48**: 161, 1902.

[14] Aronson, H.: Berl. klin. Wchnschr. **33**: 717, 1896; **39**: 979, 1902; Deutsche med. Wchnschr. **32**: 1369, 1906; Berl. klin. Wchnschr. **46**: 688, 1909.

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[17] Lavender, H. J.: Ohio State M. J. **20**: 697 (Nov.) 1924.

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Having confirmed the work of other investigators and having demonstrated more extensively the existence of a specific type of *Streptococcus hemolyticus* as the etiologic agent in erysipelas, I proceeded, in the fall of 1924, to immunize a donkey and later a horse against *Streptococcus erysipelatis*. The method of immunization was that suggested by Dochez[19] for the production of scarlatinal antistreptococcic serum. Through the kindness of Dr. Dochez, who permitted the use of his method of immunization for experimental purposes and through the interest and cooperation of Dr. G. W. Goler, health officer of Rochester, and local physicians, we have been able to submit the erysipelas antistreptococcic serum to clinical trial in a limited number of cases.

The results obtained strongly suggested that the serum possessed therapeutic value when administered in the early stages of the disease and in adequate doses.

THERAPEUTIC RECORDS

Sixty patients have been treated specifically up to the present time. All of the severe cases presented hyperpyrexia, tachycarida, moderate toxemia, and widespread erysipelatous lesions on the face, neck and scalp, accompanied by marked edema and severe tenderness in the affected areas. Two patients were moribund when first visited; twenty were considered severely ill; thirty-one were moderately ill, and seven mildly ill. Fifteen patients were treated on the second day of the disease, eighteen on the third day, twelve on the fourth and fifth days, respectively, two on the sixth, and one on the eighth day of the disease. The average dose of serum administered intramuscularly was 100 cc. of the unconcentrated lot, and 15 cc. of the concentrated globulin serum. In only eight cases was more than one dose administered. In every case, a sensitization skin test was performed with the serum, previous to the injection of the therapeutic dose.

The dominant clinical effect of the specific serum therapy in erysipelas was the prompt inprovement of the toxic depression of the patient; this was followed by a rapid and almost critical drop in the temperature, pulse and respiratory rate, observed as soon as from twelve to eighteen hours following the injection of the serum. The most striking clinical effect noted in the patients treated during the early stages of the disease was the rapid disappearance and fading of the erysipelatous lesion and the absorption of the blebs and pitting edema in the previously affected parts. Although it was observed in the late stages of the disease that the temperature and pulse yielded by lysis to the serum therapy, the amelioration of toxic depression was quite distinct within from twelve to eighteen hours after the injection of the serum.

Of the sixty patients treated, twelve brief case reports follow:

REPORT OF CASES

Case 1.—I. M., a woman, aged 39, admitted to the Rochester Municipal Hospital, a patient of Dr. P. A. Bly, Oct. 24, 1925, about eighty hours after the appearance of a sharply defined patch of redness across the bridge of the nose, was extremely toxic and prostrated; the erysipelatous lesion extended over the entire face, except the upper lip; both eyelids were greatly swollen; the conjunctivae were red and watery; both the ears were swollen and shiny, and extremely tender to touch; the margin of the lesion was markedly raised, palpable and irregular in outline, extending above to the hair-line and below to the angle of the jaw, where it abruptly stopped; there was pitting edema of the neck; the cervical and submaxillary glands were markedly enlarged. The temperature was 104.4; the pulse, 116 and respiration, 22.

October 24, at 5 p. m., 40 cc. of erysipelas antistreptococcic serum was injected intramuscularly, and two skin test doses of erysipelas streptococcic toxin were injected intradermally (chart 1).

October 25, at 8 a. m., the temperature was 100.8; the pulse 96 and respiration, 16. The patient's general condition was markedly improved; she did not appear toxic and was well oriented; the erysipelatous lesion was pale; no extension of the margins was noted. The skin test doses of the erysipelas streptococcic toxin had caused a positive reddening at the site of injection, which measured 3 cm. in diameter. At 8 p. m., the temperature suddenly rose to 104 and the pulse to 116. The patient complained of intense headache and nausea; the erysipelatous lesion assumed a deep red, and edema of the forehead caused her a great deal of pain. At 8:15 p. m., 40 cc. of erysipelas antistreptococcic serum was injected intramuscularly. The patient spent a restful night.

October 26, at 8 a. m., the temperature was 100.3; the pulse, 94 and respiration, 14. The general condition was markedly improved; edema of the forehead was completely gone; she was able to open both eyes, and the redness of the conjunctivae had cleared up. The skin was still deeply red and hot; the skin test dose of toxin was definitely positive. At 4 p. m., 50 cc. of erysipelas antistreptococcic serum was injected intramuscularly. At 12 p. m., the temperature reached 99.1; the pulse, 86 and respiration, 14. The lesion was rapidly fading, and a marked clinical improvement had occurred in the general condition.

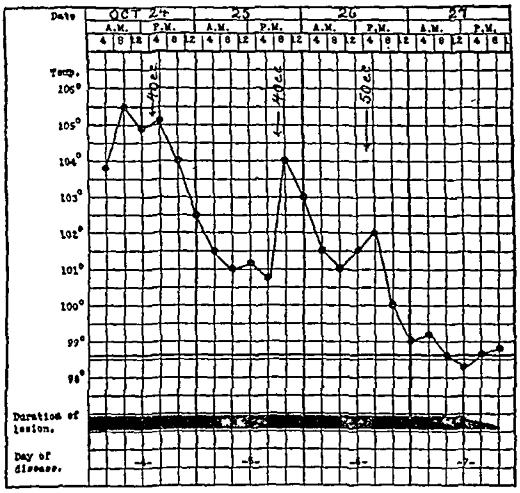

Chart 1.—Temperature course in patient 1, admitted on the fourth day after the onset of erysipelas.

October 27, at 8 a. m., the temperature was 98.7, the pulse, 86 and respiration, 14. The face looked pale and scaly; the edema of the face, scalp and neck had completely disappeared; the cervical and submaxillary glands were greatly reduced in size and not tender. The patient felt comfortable.

Aside from the development of a left otitis media, November 1, the patient has remained well.

Case 2.—C. L., a woman, aged 55, a private patient of Dr. J. Carlucci, Nov. 7, 1925, was taken suddenly ill with nausea, chills, frequent vomiting and profuse perspiration. The following morning she noticed a small patch of redness on the right side of the nose, which during the day rapidly spread across the right side of the face, involving the right eyelids and ear. The patient was moderately prostrated toward evening and sustained two fainting attacks. Novemer 9, the lesion had progressively spread to the scalp and over the left side of the face; edema of the eyelids completely closed the eyes. November 10, at 9 p. m., the temperature was 106.2; the pulse, 146 and respiration, 28. Convulsions occurred, and the patient remained delirious during the night.

November 11, the fifth day of the disease, at 2:15 p. m., the lesion had extended to the supraclavicular fossa; the entire tination and absorption that 91.2 per cent of erysipelas strains of hemolytic streptococci, isolated carefully from typical erysipelatous lesions, fell antigenically into one group, and that this group of streptococci could be readily differentiated by the same methods from strains of hemolytic streptococci isolated from scarlet fever, cellulitis, empyema, peritonitis, sinusitis, puerperal sepsis, tonsillitis and a number of other streptococcic infections.

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[19] Dochez, A. R.: Significance of Streptococcus Hemolyticus in Scarlet Fever, J. A. M. A. 82:542 (Feb. 16) 1924.

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October 24, at 5 p. m., 40 cc. of erysipelas antistreptococcic serum was injected intramuscularly, and two skin test doses of erysipelas streptococcic toxin were injected intradermally (chart 1).

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October 26, at 8 a. m., the temperature was 100.3; the pulse, 94 and respiration, 14. The general condition was markedly improved; edema of the forehead was completely gone; she was able to open both eyes, and the redness of the conjunctivae had cleared up. The skin was still deeply red and hot; the skin test dose of toxin was definitely positive. At 4 p. m., 50 cc. of erysipelas antistreptococcic serum was injected intramuscularly. At 12 p. m., the temperature reached 99.1; the pulse, 86 and respiration, 14. The lesion was rapidly fading, and a marked clinical improvement had occurred in the general condition.

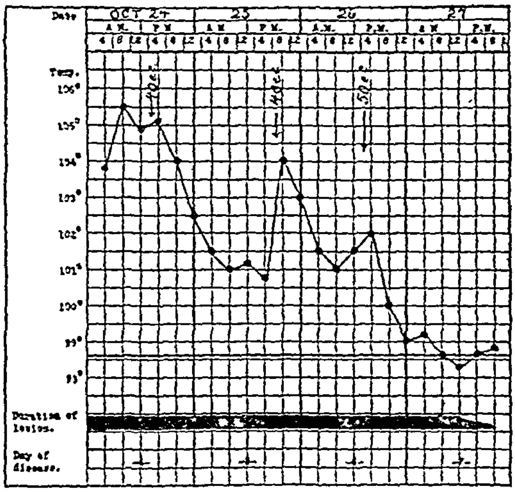

Chart 1.—Temperature course in patient 1, admitted on the fourth day after the onset of erysipelas.

October 27, at 8 a. m., the temperature was 98.7, the pulse, 86 and respiration, 14. The face looked pale and scaly; the edema of the face, scalp and neck had completely disappeared; the cervical and submaxillary glands were greatly reduced in size and not tender. The patient felt comfortable.

Aside from the development of a left otitis media, November 1, the patient has remained well.

Case 2.—C. L., a woman, aged 55, a private patient of Dr. J. Carlucci, Nov. 7, 1925, was taken suddenly ill with nausea, chills, frequent vomiting and profuse perspiration. The following morning she noticed a small patch of redness on the right side of the nose, which during the day rapidly spread across the right side of the face, involving the right eyelids and ear. The patient was moderately prostrated toward evening and sustained two fainting attacks. Novemer 9, the lesion had progressively spread to the scalp and over the left side of the face; edema of the eyelids completely closed the eyes. November 10, at 9 p. m., the temperature was 106.2; the pulse, 146 and respiration, 28. Convulsions occurred, and the patient remained delirious during the night.

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face and neck were purplish red; the skin was hot, swollen and shiny; several large blebs had formed on the face and the ears; the patient was delirious. The temperature was 104.6; the pulse, 148 and respiration, 28. At 2:30 p. m., 100 cc. of erysipelas antistreptococcic serum was injected intramuscularly and two skin test doses of toxin were injected intradermally. At 12 p. m., the temperature was 101.4; the pulse, 110 and respiration, 18. There was no extension of the erysipelatous margin, and the patient was sleeping quietly (chart 2).

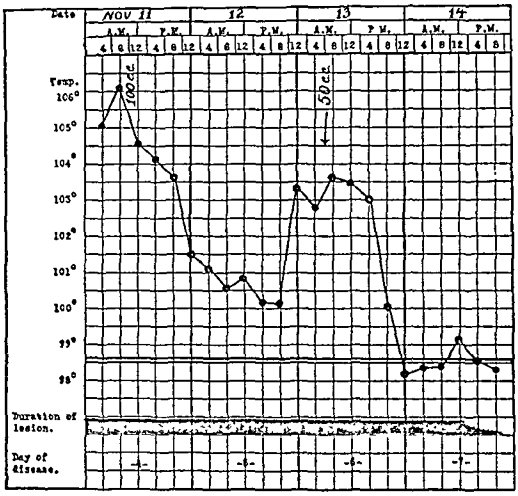

Chart 2.—Temperature course in patient 2, admitted on the fifth day after the onset of erysipelas.

November 12, at 12 a. m., there was a distinct clinical improvement in the patient's general condition; she did not appear toxic; she was able to open both eyes, and the pitting edema of the face and neck had completely disappeared; the erysipelatous lesion seemed paler, and there was no fresh extension. The skin test dose of toxin was strongly positive, the redness measuring 3.6 cm. in diameter. At 12 p. m., the patient had a chill, vomited, and perspired freely for several hours. The temperature rose to 103.4; the pulse to 124 and respiration to 24. There was a recurrence of the swelling of the face and neck.

November 13, at 8 a. m., the temperature was 103.6; the pulse, 120 and respiration, 24. The patient appeared very toxic and drowsy; the erysipelatous lesion had not extended beyond the margins previously established. At 8:10 a. m., 50 cc. of erysipelas serum was injected intramuscularly. At 8 p. m., the temperature was 100; the pulse, 94 and respiration, 16. A striking reduction in the color of the erysipelatous lesion was noticed, and an almost complete absorption of the pitting edema of the face and the neck; the patient was clearly oriented and expressed herself greatly relieved of the previously depressing headache and facial tenderness. At 12 p. m., the temperature was 98.2; the pulse, 96 and respiration, 16. The face appeared pale, and the blebs were almost completely desiccated.

November 14, at 8 a. m., the temperature was 98.4; the pulse, 90 and respiration 14. The patient was talkative and comfortable; the facial lesions had almost completely disappeared, leaving the skin very dry and cracked; only a small red spot was noted on the left ear. The cervical and submaxillary glands were still large and tender. The skin test of toxin was negative.

November 15, the temperature, pulse and respiration were normal; the patient was found sitting up in bed; fine desquamations covered the entire face; the throat was less painful. Except for an attack of serum urticaria, November 21, she has remained well without developing complications.

Case 3.—J. R., a woman, aged 58, a private patient of Dr. H. A. Sadden, Nov. 15, 1925, experienced painful sensations in the tip of the right ear; she scratched the ear until it became abraded. About ten hours later the ear became greatly swollen, red, hot, tense, with a raised palpable margin that rapidly progressed toward the angle of the jaw and the bridge of the nose. The patient became nauseated and vomited once during the evening. November 16, the spreading red edge had extended over the entire right side of the face and 2 cm. beyond the hair-line; face and features were greatly swollen, and the right eyelids were tense, enlarged and completely closed the eye; the neck was slightly swollen, and the right submaxillary glands were enlarged; three large blebs developed over the right cheek bone; the patient was greatly distressed. The temperature was 102; the pulse, 128 and respiration, 22.

November 16, on the second day of the disease, at 5:30 p. m., 100 cc. of erysipelas antistreptococcic serum was injected intramuscularly and two skin test doses of toxin intradermally.

November 17, at 8 a. m., marked clinical improvement had occurred; the temperature was 98.1; the pulse, 84 and respiration, 16; the erysipelatous lesion had completely disappeared, leaving the skin dry and cracking at the sites of the desiccated blebs; the skin of the face was pale; the right eyelids appeared normal in size and fulness; the skin test dose of toxin was negative. The patient was feeling comfortable, except for a slight headache.

November 18, the temperature, pulse and respiration were normal and the general condition was satisfactory; the face appeared normal, but for desquamation. The patient has remained well, and no complications have developed.

Case 4.—O. R., a man, aged 41, a private patient of Dr. R. S. Wilcox, seen on the morning of Nov. 16, 1925, complained of chilliness, headache, backache, and general weakness. The temperature was 101.6; the pulse 90 and respiration, 24. Physical examination was negative except for a slight coryza and a suspicious redness over the left side of the nose.

November 17, at 12 a. m., the temperature was 102.4; the pulse, 100 and respiration, 24. There were marked redness of the skin of the left side of the face, nose, ear, and left side of the forehead, considerable edema and many small blebs.

November 18, at 11 a. m., the temperature was 103; the pulse, 110 and respiration, 24. Both sides of the face, neck and forehead were markedly red and edematous; the left eye was practically closed; there was a very large bleb on the left ear. At 5 p. m., the temperature was 103.6; the pulse 110 and respiration, 34. The patient was quite prostrated. At 5:30 p. m., 100 cc. of erysipelas antistreptococcic serum was injected intramuscularly and two skin test doses of toxin intradermally (chart 3).

November 19, at 9:30 a. m., a remarkable change was noted in the general condition; the swelling of the head, face and neck was greatly reduced; the redness of the skin was rapidly fading and the blebs on the ears were smaller. The temperature was 99.2; the pulse, 90 and respiration, 20. The patient felt much better and was comfortable. The skin test dose of toxin was negative.

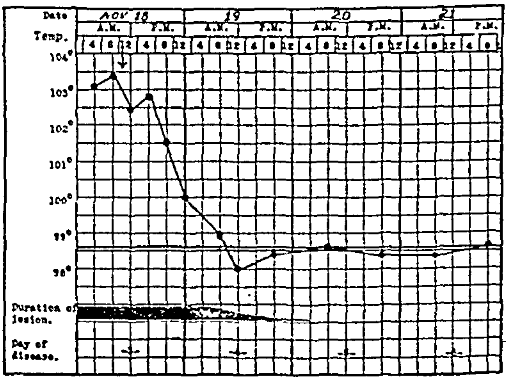

Chart 3.—Temperature course in patient 4, admitted on the third day after the onset of erysipelas. Arrow indicates injection of 100 cc. of serum.

November 20, at 9 a. m., the temperature was 98.6; the pulse, 84 and respiration, 18. The swelling of the face had practically disappeared; the redness was almost faded and the blebs gone.

November 21, the temperature, pulse and respiration were normal. There was no swelling on the face; the redness of the skin was completely gone; the skin was somewhat scaly.

The patient remained normal in every way until November 26, when serum sickness appeared. From November 29, he had an uneventful convalescence.

Case 5.—R. B., a man, aged 28, a private patient of Dr. I. Messinger, had recurrent attacks of erysipelas on the right leg for the last eighteen months, the attacks usually occurring every six weeks, and lasting from eight to ten days, when he was confined to bed with general malaise, rigor and pyrexia.

Nov. 15, 1925, the patient complained of general weakness in the right leg and noticed a red patch, slightly swollen and tender just below the right knee. There was no abrasion of the skin. A definite spreading red edge developed which, after sixteen hours, had circumscribed the entire leg from the hip down to the ankle; there was pitting edema along the entire leg; the skin was deeply purplish red, warm, smooth and tense.

November 16, at 3 p. m., the margin of the erysipelatous lesion had extended to the toes on the right leg; the patient was prostrated and in intense pain. The temperature was 101.6; pulse, 124 and respiration, 18. At 3:20, 100 cc. of erysipelas antistreptococcic serum was injected intramuscularly and two skin test doses intradermally.

November 17, at 10 a. m., the temperature was 98.6; the pulse, 84 and respiration, 14. The erysipelatous lesion had completely disappeared from the right leg; only a small area of redness, 3 cm. in diameter, was found across the internal malleolus; there was no edema or tenderness. The general condition was quite satisfactory except for a mild headache. The skin test dose of toxin was negative.

November 18, the temperature, pulse and respiration were normal; the right leg was apparently normal; the patient was able to walk to the bathroom without difficulty. November 20, he returned to work. He remained well, without developing complications, until January 10, when the old lesion recurred on the right leg. The onset of the lesion was gradual, and the patches of redness that developed were confined to a small area above the knee. The attack was unattended by any general symptoms and lasted four days. A repeated intradermal injection of two skin test doses of toxin gave a strongly positive reaction. Active immunization by means of graduated doses of erysipelas streptococcic toxic filtrate is in process.

Case 6.—L. Y., a woman, aged 55, a private patient of Dr. G. H. Gage, had had attacks of recurrent erysipelas for the last two years; the attacks had always been on the lower left leg, usually commencing on the big toe and rapidly spreading toward the knee, circumscribing the entire lower leg; the average duration of these attacks has been ten days, when the patient has been confined to bed with the characteristic symptoms of febrile reaction.

Nov. 23, 1925, she noticed a small area of redness on the dorsum of the left big toe; a definite, spreading, red edge developed, which advanced slowly over the entire dorsum of the foot, involving all the toes; the skin was hot, markedly smooth and tense, and pitting edema with extreme tenderness on pressure was noted in the involved areas; marked prostration followed.

November 25, at 1:30 p. m., the temperature was 101.2; the pulse, 110 and respiration, 20. A dose of 100 cc. of erysipelas antistreptococcic serum was injected intramuscularly and two skin test doses of toxin intradermally.

November 26, at 11 a. m., the temperature was 98.4; the pulse, 84 and respiration, 14. The general condition was strikingly improved; swelling of the foot was almost completely gone, and the redness of the erysipelatous lesion rapidly fading; no extension of the lesion was noted; the patient was resting comfortably. The skin test dose of toxin was negative.

November 27, the temperature, pulse and respiration were normal; the redness on the dorsum of the left foot had completely disappeared, leaving the skin dry and scaly; there was no edema or tenderness; the patient's general condition was satisfactory. Except for serum sickness, which occurred, December 8, she has remained well, having developed no complication or recurrent attack of erysipelas.

Case 7.—C. B., a woman, aged 48, a private patient of Drs. T. Jameson and S. H. Gibb, Jan. 1, 1926, complained of general malaise, with pains in the region along the angle of the right lower jaw; the right submaxillary glands were markedly swollen; a definite erysipelatous blush, with raised margins and tense overlying skin, was noticed from the border of the right lower jaw toward the middle of the region of the right parotid gland. The temperature was 102; the pulse, 100 and respiration, 22. The following two days, the margin of the erysipelatous lesion advanced toward the bridge of the nose, involving the entire right side of the face and the right ear; the right eyelids were markedly swollen. An effort to limit the spread of the lesion by means of a ring of contractile collodion failed.

January 4, at 1 p. m., 100 cc. of erysipelas antistreptococcic serum was injected intramuscularly. The temperature at 5 p. m. was 103.6; the pulse, 108 and respiration, 20. At 11 p. m., the patient was resting comfortably; the temperature was 100.8; pulse, 98 and respiration, 18.

January 5, at 8 a. m., the temperature was 99; the pulse, 98 and respiration, 14. The change in the clinical picture was remarkable; the redness was greatly faded over the entire erysipelatous lesion; the local tenderness and the burning sensations had disappeared; the swelling of the submaxillary glands was less intense; over the bridge of the nose was an extension of the reddening, measuring about an inch. Otherwise the patient's general condition was satisfactory.

January 6, at 12 a. m., the temperature was 98.6; the pulse, 86 and respiration, 14, the entire face had cleared up, except for a faint redness over the previously infected areas. The patient was feeling very much better.

January 9, marked urticaria manifested itself. Joint pains were largely controlled by sodium salicylate. The patient has since remained well, without developing complications.

Case 8.—S. M., a woman, aged 38, a private patient of Dr. J. G. Hart, Dec. 14, 1925, was seen in the physician's office complaining of reddening and swelling of the left ear. The margin of the reddening was definitely raised, irregular in outline, extending from the left ear, over the mastoid area and toward the angle of the left jaw. The temperature was 98.4; the pulse, 76 and respiration, 18. The patient was sent home and to bed.

December 15, at 1:30 p. m., the lesion had spread over the left side of the face, involving the left eyelids. The patient was very uncomfortable, complaining of itchiness and tenderness over the entire face. The temperature was 100.4; the pulse, 86 and respiration, 22. The following two days, the general condition became worse, and the lesion continued to spread across the forehead and beyond the hair-line. December 17, the temperature remained elevated all day between 102 and 102.4; the pulse was 110 and respiration, 22. The patient was prostrated.

December 18, at 12:30 p. m., the temperature was 102.1; the pulse, 104 and respiration, 22. The patient was extremely uncomfortable and feverish. The margin of the erysipelatous lesion had extended toward the occipital portion of the neck; the face and forehead were greatly swollen, and the left edematous eyelids completely closed the eye. At 12:45, 50 cc. of erysipelas antistreptococcic serum was injected intramuscularly.

December 19, at 8 a. m., there was noted a clinical change in the patient's general condition. The lesion on the face and forehead had almost completely disappeared, and she was able to open the left eye; the tenderness and edema were gone from the face; a slight swelling was noticed in the occipital region. The temperature was 99.1; the pulse, 84 and respiration, 16. The patient was feeling very much relieved. At 8 p. m., the temperature had dropped to 98.4; the pulse to 76 and the respiration to 14. The face appeared pale and crusted. Tenderness and swelling in the left occipital region were less intense, and the redness was rapidly fading.

December 20, the temperature, pulse and respiration were normal; the general condition was satisfactory. December 25, serum sickness developed. The patient has since remained well; no complications have developed.

Case 9.—G. S., woman, aged 48, a private patient of Dr. M. S. Collier, Jan. 19, 1926, was taken suddenly ill with nausea, chills, frequent vomiting and fever. She noticed a small abrasion on the right side of the nose, surrounded by a large area of deep redness and marked swelling. The following day, the redness and swelling had spread over the entire nose and rapidly assumed the "butterfly pattern" across both cheeks. January 21, the lesion had extended over the entire face, forehead and both ears. The patient was markedly prostrated. The temperature was 103.2; the pulse, 98 and respiration, 26. At 10:30 p. m., she became delirious and convulsive. The margin of the erysipelatous lesion had passed beyond the hair-line; the face was deeply reddish purple; the eyes were completely closed by the marked swelling of the eyelids.

January 22, at 4 p. m., the temperature was 103.4; pulse 100 and respiration, 22. The margin of the erysipelatous lesion had invaded the scalp, some 8 cm. beyond the hair-line; pitting edema was marked over the forehead and scalp; the skin was very tense, hot, shiny and deeply injected. At 4:30, 100 cc. of erysipelas antistreptococcic serum was injected intramuscularly and two skin test doses of toxin intradermally (chart 4).

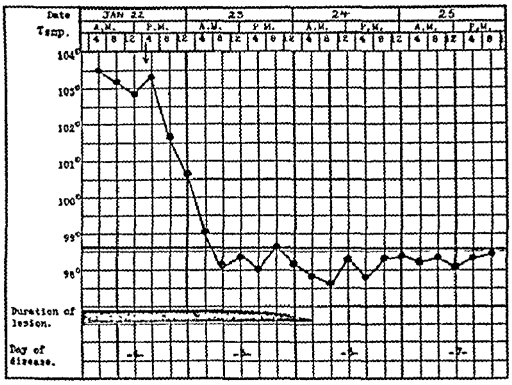

Chart 4.—Temperature course in patient 9, admitted on the fourth day after the onset of erysipelas. Arrow indicates injection of 100 cc. of serum.

January 23, at 9 a. m., the temperature was 98.2; the pulse, 74 and respiration, 14. The puffiness of the face had disappeared, and the intense redness previously noticed was greatly faded over the central portion of the face; the scalp and posterior portion of the neck were still tender, although the pitting edema was almost gone. The patient was clearly oriented and feeling very much better. The injection of the fauces and the submaxillary glandular swelling were less marked. The skin test dose of toxin was negative.

January 24, the temperature, pulse and respiration were normal. The face, neck and scalp were slightly flushed; both eyes were free from any edema; the ears were rapidly restored to their normal size; the throat was less sore, and the submaxillary glands were small and not tender. The patient's general condition was very satisfactory. The convalescence has been uneventful, and no complication has developed.

Case 10.—E. W., a school girl, aged 13, admitted to the Rochester General Hospital, Jan. 22, 1926, was operated on for mastoiditis, January 23, and was doing nicely until, January 26, the edges of the surgical wound became greatly inflamed and suppurative; a well defined red margin rapidly spread across the left side of the face, involving the entire left ear. The following day the lesion had extended to the ramus of the left lower jaw and half-way across the bridge of the nose; the patient was feverish, restless and slightly nauseated. Several large blebs formed on the cheek, and the induration of the skin was firm.

January 27, at 4 p. m., the temperature was 103.2; the pulse, 96 and respiration, 20. At 4:10, 10 cc. of concentrated globulin erysipelas antistreptococcic serum was injected intramuscularly. The patient rested quietly during the night (chart 5).

January 28, at 6 a. m., the temperature had dropped to 99.4 and the pulse was 84. The general condition was satisfactory, and the erysipelatous lesion was less intense in redness; a slight extension of the erysipelatous margin was noted over the bridge of the nose. At 8 p. m., the temperature suddenly rose to 100.6, and the patient complained of pain in the surgical wound; suppuration from the wound was profuse. The blebs on the cheek had completely dried up; the redness of the face was less intense.

January 29, at 8 a. m., the temperature was 98.3; the pulse, 80 and respiration, 20. The patient was comfortable; the erysipelatous lesion had almost completely disappeared from the face; there was no tenderness or edema.

January 30, at 8 a. m., the temperature was 98.2 and the pulse 78; the patient was in excellent condition and was discharged from the hospital.

Case 11.— R. M., a school girl, aged 9 years, a patient of Dr. P. A. Bly, was admitted to the Rochester Municipal Hospital, Nov. 10, 1925, six days after the onset of erysipelas of the right lower leg. There was general prostration. November 11, at 8 p. m., the lesion had progressed to the knee; the temperature was 104.4; the pulse, 136 and respiration, 20. The patient was given 40 cc. of erysipelas antistreptococcic serum intramuscularly. November 12, at 10 a. m., the temperature had fallen to 101.4; the pulse was 108 and respiration, 16. The redness of the lesion was markedly reduced and not extended; the patient was resting comfortably. November 13, the lesion extended to the sole of the foot; there was no extension at the knee. November 14, the entire lesion was markedly blanched with no extension; the temperature was 100 and the pulse, 94. November 15, the temperature and pulse were normal; the general condition was satisfactory; the redness of the leg was rapidly fading. The patient has since remained well, having developed no complications.

Case 12.—F. G., a woman, aged 60, a patient of Dr. P. A. Bly, was admitted to the Rochester Municipal Hospital, Dec. 7, 1925, eight days after the first appearance of erysipelas on the right cheek. The entire face, neck, ears and scalp were involved. There were severe adenitis, general malaise, nausea and vomiting. At 11:40 p. m., the temperature was 104.3; the pulse 86 and respiration, 24. The patient was given 100 cc. of erysipelas antistreptococcic serum intramuscularly. December 8, there was no extension of the erysipelas; the toxic depression was greatly relieved; the temperature at 8 p. m., was 100.4; the pulse, 68 and respiration, 16. The patient was given a second 100 cc. of erysipelas antistreptococcic serum intramuscularly at 9 p. m.; she slept well all night. December 9, the temperature fell to 99.1 and the pulse to 72. There was no extension of the lesion; she felt fairly comfortable; the adenitis was aggravating. The following three days, the patient suffered with severe headaches, sore throat and general lassitude; the lesion had spread slightly along the dependent portions of the neck. December 12, the temperature and pulse became normal; the erysipelatous lesions rapidly disappeared, and the adenitis was markedly relieved. She has since remained well, having had an uneventful convalescence.

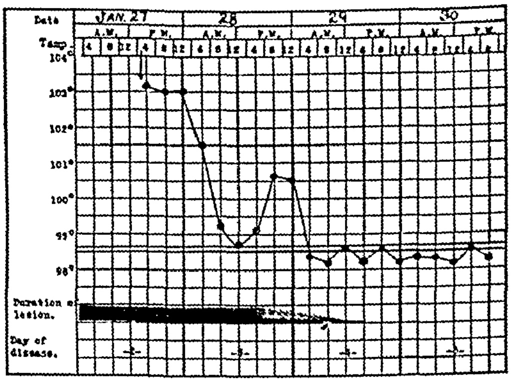

Chart 5.—Temperature course of patient 10, admitted on the second day after the onset of erysipelas. Arrow indicates injection of 10 cc. of serum.

CONCLUSIONS

Further experimental evidence is advanced to prove that the etiologic agent in erysipelas is a specific type of *Streptococcus hemolyticus* and that the serum produced with this specific type of micro-organism possesses very marked curative properties when administered early in the disease.

Clinical trials in sixty moderately severe cases of erysipelas have demonstrated that intramuscular injection of erysipelas antistreptococcic serum, in amounts of 100 cc. of the unconcentrated and from 15 to 20 cc. of the concentrated serum, when administered during the first three days of the disease, causes a prompt amelioration of toxic depression, a critical fall in temperture and pulse rate, prompt fading of the erysipelatous lesion, and rapid absorption of the blebs and edema within the affected areas.

In late cases of erysipelas, the result of serum therapy is strikingly favorable in ameliorating the general toxic depression, although repeated injections of serum may be necessary completely to neutralize the circulating toxin in the patient's blood. Following each injection of the serum, there is noted a critical drop in temperature and pulse to within normal limits as soon as from twelve to eighteen hours after the injection of the serum; the symptoms may quickly return, and a second dose may be necessary to bring about a complete recovery.

By means of a skin test dose of toxin injected intradermally and simultaneously with the intramuscular therapeutic dose, it is possible to observe whether complete neutralization of the circulating toxins is accomplished, or whether an inadequate dose of serum was administered the patient to accomplish the cure of the disease.

It is too early to state whether the serum is purely antitoxic in nature. Its influence on the rate of recurrence of erysipelas in patients having frequent attacks of the disease is also of great interest and will be studied further. It is hoped that annoying attacks of serum sickness following the administration of large doses of antistreptococcic serum will be less severe and fewer when the refined globulin serum is used.

GLUCOSE AND INSULIN IN THE TREATMENT OF THE VOMITING OF PREGNANCY

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The intravenous administration of glucose in the treatment of the vomiting of pregnancy was advocated in 1920 by Titus, Hoffman and Givens,[1] who reported the results they obtained in the management of seventy-six cases, the chief factor in the treatment being the free exhibition of carbohydrates. These patients were divided into three groups; the first comprised the cases that could be classed as mild; the second included the moderately severe types, and the third was made up of those patients who were seriously ill.

In the first group were placed thirty-two of these patients. They were treated by rest in bed and free carbohydrate feeding. Small amounts of nourishment were given at frequent intervals, as it was found that the patients could retain seven small meals a day better than three rather bountiful ones. Some of the women also took 1 or 2 ounces (30 or 60 cc.) of a 10 per cent solution of glucose containing 2 per cent of sodium bicarbonate, every three hours. All recovered promptly. In group 2, there were twenty-nine patients. Acetone was found in the urine of each one. They were treated along the same lines as the patients in group 1. Twenty-three patients were relieved promptly, five others recovered more slowly, while the remaining one, though greatly benefited, was somewhat nauseated throughout her pregnancy. The third group comprised fifteen patients who were extremely ill; acetonuria was invariably present, and in the majority of cases albumin and casts were also found in the urine. Many of the patients were jaundiced and all were emaciated; none of them could retain food or water. It appeared that therapeutic abortion would be necessary in the treatment of practically all the patients of this group. They were treated intensively. Fourteen recovered entirely in from seven to fourteen days, while in one case therapeutic abortion was necessary. This patient was jaundiced and emaciated, and was also suffering from multiple neuritis. It is to be presumed that all the patients in group 3 and many in group 2 were treated by the intravenous administration of glucose, though the authors did not go into details with regard to this point.

In 1922, Titus and Givens[2] published a supplementary paper, reporting the same gratifying results in sixty-seven additional cases, with only one death. This patient was one of the two on whom it was necessary to perform therapeutic abortion; she died of acute yellow atrophy of the liver. Eclampsia, preeclamptic toxemia, fulminating toxemia with ablatio placentae, and chorea gravidarum were also successfully treated. In antepartum eclampsia, the employment of glucose intravenously in addition to the usual measures (the cases were handled by the conservative method) reduced the maternal death rate from 28.9 per cent to 15 per cent.

In his latest paper, Titus[3] reports on 184 other patients similarly treated; of these 129 were in group 1. One hundred and two of them were cured in seven days or less; eighteen were entirely relieved of symptoms in from seven to fourteen days, while the remaining nine were cured after a longer interval. The thirty-two patients in group 2 were also promptly relieved. Of the twenty-three in group 3, twenty-one were cured, while two did not improve and died in spite of therapeutic abortion.

In these papers, Titus and his co-workers hold that, while the causation of the nausea and vomiting of early pregnancy is still an unsolved problem, there is no doubt that the mother is suffering from a carbohydrate deficiency, on account of the sudden demand for glucose on the part of the developing embryo. If the mother's diet is rich in carbohydrates, there should be little or no toxemia; but if the diet is deficient in this regard, the needs of the embryo are met by a depletion of the glycogen of the maternal liver. This leads to a fatty replacement in the cells formerly storing glycogen, and later to a fatty degeneration if the deficiency is not corrected. Consequent on this impaired liver function and the resulting toxemia, according to these writers, there develops an acidosis, an increased demand for carbohydrates, and an intolerance for food. Hence, the mother feeds on her own tissues, and a vicious circle is established.

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[1] Titus, Paul; Hoffman, G. D., and Givens, M. H.: The Rôle of Carbohydrates in the Treatment of Toxemias of Early Pregnancy, J. A. M. A. 74:777 (March 20) 1920.

[2] Titus, Paul; and Givens, M. H.: Intravenous Injections of Glucose in Toxemia of Pregnancy, J. A. M. A. 78:92 (Jan. 14) 1922.

[3] Titus, Paul: Hyperemesis Gravidarum: Treatment by Intravenous Injections of Glucose, and Carbohydrate Feedings, J. A. M. A. 85:488 (Aug. 15) 1925.

Thalhimer,[4] in 1924, went a step further and began to employ insulin in combination with glucose in the treatment of the toxemic vomiting of pregnancy. He reasons that the acidosis can be combated more readily in this manner than by glucose alone, and quotes Harding and Potter[5] of Toronto as stating that it takes from five to six days to clear up the acidosis in these cases by simple glucose therapy. The insulin promotes the oxidation of the carbohydrate, which is supplied from without as an infusion, the maternal supply being more or less exhausted. Thalhimer reports in detail several severe cases treated in this manner, with most gratifying and extremely prompt improvement in the condition of each patient. He employs 1,000 cc. of a 10 per cent solution of glucose, given intravenously at the rate of from 200 to 300 cc. an hour, which is repeated as indicated. For this administration he has devised a special apparatus.[6] Ten units of insulin is given fifteen minutes after starting (or 20 units may be given at the end of the first hour), and this is repeated at hourly intervals until 30 units has been administered. Epinephrine is to be employed in case a hypoglycemic reaction develops. This occurred only once in Thalhimer's series.

Titus, however, in his latest paper, considers that the use of insulin in combination with the glucose is contraindicated, for the reason that storage in the liver is desired, and not rapid combustion. He treated several patients according to Thalhimer's method, but cannot agree that women thus treated recover more rapidly than those receiving glucose without insulin.

Lefevre[7] reports four patients who were clinically benefited by the use of glucose and insulin. Two were treated early in pregnancy. One of them was cured; the other, after several recurrences which were relieved by this method, finally refused further treatment. She aborted spontaneously one month after her first visit. Another patient was six months pregnant, and the fourth was first seen forty days before delivery. Both were treated successfully. Lefevre employs 50 per cent solutions, giving 10 Gm. of glucose each time; he prefers the concentrated solution on account of the greater ease of intravenous injection. The treatments can be given at the office, and may be repeated daily if necessary. He uses a larger dose of insulin than that recommended by Thalhimer, giving from 10 to 20 or even 25 units with each 10 Gm. of glucose, instead of adhering to the proportion of 1 unit to 2 or 3 Gm. of the glucose. One of these patients, who received 25 units to 10 Gm. of glucose, developed hypoglycemia, which was relieved by orange juice. Lefevre found, in treating the ketonemia of diabetic acidosis, that it is very hard to reduce the blood sugar to a level low enough to bring about insulin shock; he feels, likewise, that the combustion of glucose under the influence of insulin reduces the ketonemia of hyperemesis before the blood sugar level is affected to any appreciable extent.

For the last two years, in the obstetric service of Dr. C. Jeff Miller at the Charity Hospital of New Orleans, we have treated hyperemesis gravidarum along these lines, and it is my purpose here to put on record seven cases thus handled. The number is small, as only the patients suffering from the severer types of toxemic vomiting are admitted to the ward, the ambulant cases being cared for in the clinic. Our results have been much more satisfactory than those obtained when other methods of treatment were employed. The condition of each patient when admitted was so serious that we feared that we would be unable to effect a cure without recourse to therapeutic abortion. In four cases the improvement was so prompt and so striking that resort to this operation was no longer indicated. One patient was hopelessly ill on admission, and died in spite of treatment with glucose and insulin, combined with the induction of abortion. Another patient, who was extremely toxic, was not benefited by this treatment and refused, for religious reasons, the therapeutic abortion that was clearly indicated. She died of toxic myocarditis four weeks after the vomiting had been checked by the use of the duodenal tube. The last patient treated was apparently much benefited, but relapsed, and therapeutic abortion was induced with a resulting cure.

REPORT OF CASES

Case 1.—A woman, admitted, Sept. 26, 1924, in the sixth week of pregnancy, was very toxic. She was treated with phenobarbital sodium, sodium bromide and proctoclysis until October 4, with temporary improvement; at this time her condition changed for the worse. October 4, 5, 6 and 7 she was given 1,000 cc. of 5 per cent glucose solution twice each day by hypodermoclysis with 15 units of insulin each time. October 8, she was much better and retained soft food. October 10, she relished and retained the regular full diet of the ward. Symptoms of threatened abortion then developed, and in spite of treatment with morphine and opium in pill form she aborted, October 21, thirteen days after the cessation of the vomiting. Recovery was uneventful.

Case 2.—A woman, extremely ill, whose condition was hopeless when she was admitted, Oct. 31, 1924, was comatose, with a pulse of 180, marked jaundice, muscular tremors, and involuntary urination and defecation. Glucose was given intravenously, with insulin, once or twice daily. November 4, we started a continuous intravenous drip by the Matas method,[8] giving from 2,000 to 3,000 cc. of 5 per cent glucose every twenty-four hours, with one unit of insulin to each 2.5 Gm. of the sugar. The pulse varied between 160 and 180; only once, November 7, did it drop to 120, and then only for a short time. The urine contained a little sugar at times; the acetone disappeared on the second day, and diacetic acid was never found. November 7, abortion was induced by introducing a catheter without moving the patient from her bed. There was no improvement; terminal bronchopneumonia developed, and she died, November 11. We feel that her life was prolonged by the use of glucose and insulin, and that death was due to the irreparable injury sustained by the organs prior to admission.

Case 3.—A woman, admitted, Jan. 15, 1925, with a pulse of 102, and acetone, a trace of albumin, and some pus in the urine, was very toxic and extremely weak. On the day of admission, 1,000 cc. of 5 per cent glucose solution was given twice by hypodermoclysis, with the corresponding doses of insulin hypodermically. The next day the patient was much worse, and was given 1,000 cc. of 5 per cent glucose solution intravenously, with 20 units of insulin subcutaneously. The following day she was decidedly better. Food was retained, January 18, and thereafter. She was discharged, February 2.

Case 4.—A woman, who did not appear very ill when admitted, Feb. 23, 1925, was given glucose solution, without insulin, February 25 and 26. She retained nothing by mouth. At 2:15 a. m., February 27, the pulse rose to 132, and she became extremely weak. An intravenous injection of 1,000 cc. of 5 per cent glucose solution was given with 10 units of insulin hypodermically. At 8 a. m., the same day, she retained orange juice sweetened with lactose, and later in the day soft food was retained as well. Glucose was given by hypodermoclysis, with insulin, on the evening of February 27, as well as the next day. The convalescence was henceforth uneventful, with only an occasional attack of vomiting, which was controlled by phenobarbital sodium. She was readmitted seven weeks later, with a mild recurrence, which was successfully combated by the same drug.

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[4] Thalhimer, William: Insulin Treatment of the Toxemic Vomiting of Pregnancy, J. A. M. A. **82**: 696 (March 1) 1924; Insulin Treatment of Postoperative (Non-Diabetic) Acidosis and Toxemia Vomiting of Pregnancy, Wisconsin M. J. **22**: 561 (May) 1924; Insulin Treatment of the Toxemic Vomiting of Pregnancy, Surg., Gynec. & Obst. **39**: 237 (Aug.) 1924; Insulin and Glucose Treatment of Excessive Vomiting of Pregnancy, Am. J. Obst. & Gynec. **9**: 673 (May) 1925.

[5] Harding, V. J., and Potter, C. T.: Brit. J. Exper. Path. **4**: 105 (June) 1923.

[6] Thalhimer, William: Simple Apparatus for Accurate Intravenous Administration of Glucose Solutions, J. A. M. A. **78**: 190 (Jan. 21) 1922.

[7] Lefevre, G. M.: The Use of Insulin in Pernicious Vomiting of Pregnancy, J. Michigan M. Soc. **24**: 153 (March) 1925.

[8] Matas, Rudolph: The Continuous Intravenous Drip, Ann. Surg. **79**: 643 (May) 1924.

CASE 5.—A woman, admitted, April 22, 1925, when two and one-half months pregnant, had been vomiting excessively for one week, and appeared to be rather toxic. The urine contained considerable acetone and many red blood cells. She was treated by the administration of 1,000 cc. of 5 per cent glucose solution by hypodermoclysis, with 25 units of insulin, twice daily. The vomiting ceased; the acetone disappeared from the urine, and the patient retained food on and after the third day.

CASE 6.—A woman, admitted, Aug. 4, 1925, when three months pregnant, with a history of occasional vomiting for two months, had become much worse during the two weeks prior to admission. The urine contained considerable acetone. The pulse was over 100 the greater part of the time. The temperature varied between normal and 100 for the first twelve days; after this it rose occasionally to 101 or 102. On the first two days, phenobarbital sodium was administered in 1 grain (0.06 Gm.) doses hypodermically one hour before each meal, but the vomiting persisted. August 6, we began the use of glucose, giving 1,000 cc. of a 5 per cent solution by hypodermoclysis once or twice daily, with 20 units of insulin hypodermically each time. There was temporary improvement, but August 15, the patient became worse, so the intravenous route for the administration of the glucose was employed, the injections being given daily. This treatment was of no avail; hence, August 21, therapeutic abortion was advised. Permission was refused by the patient on religious grounds. We then resorted to the continuous intravenous drip by the Matas method, using 5 per cent glucose solution, with insulin hypodermically. A trace of acetone was still noted in the daily urinalysis. The vomiting continued. August 27, a Jutte tube was passed into the duodenum. The first attempt to pass the tube, one week previously, had failed. The patient was fed through this tube, as suggested by Paddock [9] and the tube was left in place for eight days. There was no vomiting during this time, and for two days before the removal of the tube, she was retaining soft food given by mouth. There was no recurrence of the vomiting after the removal of the tube, and she was soon on a fairly free diet. However, the rapid pulse and general weakness continued. Myocarditis, probably antedating the pregnancy and aggravated by the toxemia, was diagnosed by Dr. J. B. Guthrie of the department of medicine. The myocarditis caused her death, September 22, over three weeks after the cessation of the vomiting.

CASE 7.—A woman, who came to the hospital, Jan. 19, 1926, when about three months pregnant, gave a history of fairly persistent vomiting for one month. For a week before admission her condition had been extremely unsatisfactory, in spite of treatment at home by a competent physician. She had lost 40 or 50 pounds (18 or 23 Kg.). On admission, her pulse was 120 and weak; she was apathetic and fretful, vomited everything, and the urine contained a considerable amount of acetone. The cubital veins were very inaccessible, so the glucose solution was at first administered by hypodermoclysis, with insulin hypodermically. She improved very decidedly for the first sixty hours; the acetone disappeared from the urine, and she retained some soft food. Her condition then became worse, so the intravenous route was resorted to, 1,000 cc. of a 10 per cent solution being given each time. In spite of this treatment, she became progressively worse and retained nothing. January 25, her pulse was 140, and the prognosis was not good. Catheters were inserted that night, and she aborted on the morning of January 27. After this she improved gradually but steadily; her pulse, however, remained rapid for several days. She was discharged, February 8.

COMMENT

It will be noted that the patients in this series who were benefited by the glucose therapy responded promptly to the treatment, and that the one who was hopelessly ill (patient 2) and the two other extremely ill patients derived only transient benefit or none at all. Hence, it would appear that therapeutic abortion is the only alternative when these severely toxic patients do not show prompt and striking improvement after intravenous glucose therapy has been employed. In these patients, the injury to the liver and other vital organs is evidently so extensive that prompt removal of the source of the toxin or toxins is the only measure promising relief, and if the toxemia has progressed too far, even this treatment will not avail.

Another lesson to be learned from this small series is that it is best to resort to the intravenous route from the start in caring for seriously ill patients, even though we treated two (patients 1 and 5) successfully by the administration of glucose by hypodermoclysis only. These two were not so ill as the other five. It is probable that in one or two instances we lost valuable time because we did not employ the intravenous method from the outset. I would also recommend that the continuous intravenous drip of Dr. Matas be given a more extended trial, particularly in desperate cases. Of course, if facilities for intravenous treatment are lacking, the subcutaneous method is to be employed.

Another point of interest is the fact that in case 6 treatment by the duodenal tube succeeded, as far as controlling the vomiting was concerned, after the intravenous administration of glucose had failed. We have attempted to pass the tube several times in patients not included in this series, but failure has been the rule. It appears that this method has great merit, provided one is so fortunate as to succeed in passing the tube through the pylorus. The frequent vomiting makes this difficult, and at times impossible.

For the sake of brevity, I omitted from the case reports all reference to the blood chemical determinations. We found that the maternal blood sugar was uniformly low before beginning treatment, and that it rose promptly after the administration of glucose and insulin. We have not attempted the study of the glycemia curves as a test of the extent of liver injury, as outlined by Titus and Givens,[2] but it appears that this is a useful and reliable method. From a practical point of view, we have noted that repeated punctures of the veins soon result in thrombus formation, and thus the veins available for the introduction of the glucose are rendered useless. Hence, we have not deemed it advisable to resort to daily blood sugar determinations, however interesting such a study might be.

From this small series, it appears justifiable to conclude that this method of treatment is of decided value, and constitutes a definite advance over the methods formerly employed for the relief of patients suffering from the toxemic vomiting of pregnancy. I feel that the use of insulin with the glucose is to be preferred, as my impression is that more prompt relief is thus obtained than by the employment of glucose alone. However, an occasional patient will be encountered with organic injury already so extensive that this treatment will be of no avail, and therapeutic abortion will be the only recourse. This point can be determined at present only by clinical observation. It is possible that one or more of the various liver function tests may be found of great value in assisting us to arrive at a decision in such a case, but more investigation is necessary along this line[10]

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[9] Paddock, C. E.: The Treatment of Hyperemesis Gravidarum by the Duodenal Tube, J. A. M. A. 88: 1611 (May 27) 1922.

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CARDIOVASCULAR REACTIONS IN ATHLETIC AND NONATHLETIC GIRLS

SCHNEIDER AND CRAMPTON TESTS *

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Since the summer of 1922 one of us (P. M. D.) has periodically been in charge of the inmates of a girls' camp among the Rocky Mountains The high altitude of the camp (9,000 feet) and the naturally strenuous nature of the most important local activity (mountaineering) rendered desirable some reliable or at least suggestive test of cardiovascular efficiency. Routine examinations and grading by the method devised by E. C. Schneider[1] were therefore instituted and proved to be very helpful. There was, however, no body of observations that could serve as a guide and establish the limits of normality for the Schneider grades in girls. Consequently, three of us (M. K. D., D. M. and M. M.) undertook to supply this demand and the results of our observations are the basis of this article.

The cases studied by us are not very numerous (200), but we believe that our results will be welcomed as suggestive and helpful by those, whether physicians or physical directors, who are engaged in supervising the physical activities of girls.

METHOD

In ordinary speech one uses the designation "athletic girl" rather vaguely. Sometimes one is thinking of a girl who is engaged in athletics, sometimes of a girl of good physique; sometimes the individual one has in mind possesses both of these characteristics. In this paper the terms in question are used to indicate girls who are actively engaged in athletic sports regardless of their physique. To be sure, a good physique is as a rule associated with athletic activities either as cause or effect or both; but this is not necessarily the case and it may be that some of the girls whom we have designated athletic were physically below par, while some of those designated nonathletic may have been more physically efficient than some of the so-called athletic ones. If this should happen to have been the case, the fact need not cause us any concern, for the only result would be a tendency for differences found between the athletic and nonathletic to be reduced and consequently such differences as may have been found would come to have greater significance.

Our mode of procedure was to observe and compare the cardiovascular reactions of athletic and nonathletic girls (as defined above) as shown by the Schneider and Crampton[2] tests.

Briefly stated, the factors entering into these tests are: Schneider's: A, pulse rate while lying; B, difference between A and C; C, while standing; D, increase resulting from standard exercise; E, time required to return to normal after such exercise; F, change in systolic pressure on passing from lying to standing. Crampton's: B and F of the preceding test.

The subjects of our observations were 200 high school girls in Manitowoc and Madison, Wis., and Prophetstown, Oak Park and Hinsdale, Ill. In respect to the data obtained, these subjects fall into two groups, 1 and 2. In group 1, the diastolic as well as the systolic pressure was determined and the subjects were classified according to age. This group comprises sixty nonathletic and forty athletic girls whose ages range from 13 to 19 years, inclusive. In group 2 the diastolic pressure was not determined and there was no distinction made as to age. This group comprises fifty athletic and fifty nonathletic girls of from 13 to 15 years of age, inclusive.

For the convenience of those employing the tests in question, our results are presented in tabular form. Through the perusal of these tables we have been led to a series of conclusions which we shall enumerate, stating after each member of the series the table or tables that establish the conclusion in question. The conclusions are not of equal validity, since for some of them the number of cases examined is inadequate. This circumstance need not mislead the reader, since the details necessary to evaluate each conclusion are always stated in the particular table to which reference is made. Throughout these conclusions the comparative degree is used in speaking of the athletic girl as contrasted with the unathletic.

CONCLUSIONS

Some of the conclusions are of questionable importance and validity.

1. Athletic girls have a slightly larger increase in pulse pressure after passing from the recumbent to the erect posture (table 2).
2. Their average diastolic pressure rises slightly higher under the same circumstances (table 2)
3. Their average diastolic pressure falls slightly lower after exercise (table 2).
4. Their systolic pressure rises slightly higher as the result of exercise (table 2).
5 Their pulse product is a little less in both lying and standing and a little greater after exercise (table 1).

Some of the conclusions are neither new nor unexpected.

6. Athletic girls have a slower resting pulse than the nonathletic (table 1).
7. They have a greater rise of systolic pressure on passing from the recumbent to the standing posture (table 2).
8 They have a smaller increase in pulse rate on passing from the recumbent to the standing posture (table 2).

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[10] The glucose solutions are prepared at the Charity Hospital as follows Chemically pure, anhydrous dextrose is used, of the best quality obtainable It is dissolved in sterile distilled water and is strained through sterile gauze into sterile pint bottles All utensils are sterilized before being used The bottles, after being filled, are placed in an ordinary sterilizer and are boiled for fifteen minutes In my experience, no reaction has followed the employment of solutions thus prepared, nor have I heard of untoward results occurring in other departments of the hospital It might be well to note the fact that ampules containing concentrated glucose solutions are now available, from which the weaker solutions are made by simple dilution

* From the physiologic laboratory of the University of Wisconsin.

[1] Schneider, E C: A Cardiovascular Rating as a Measure of Physical Fatigue and Efficiency, J A M A **74**: 1507 (May 29) 1920. The Measure of Physical Fitness, editorial, ibid **75**: 110 (July 10) 1920 Scott, V T. The Application of Certain Physical Efficiency Tests, ibid. **76**: 705 (March 12) 1921

[2] Crampton, C W: Blood Ptosis: A Test of Vasomotor Efficiency, New York M J. **98**: 916, 1913; The Blood Ptosis Test and Its Use in Experimental Work in Hygiene, Proc Soc Exper Biol & Med **12**: 119, 1915, The Gravity Resisting Ability of the Circulation: Its Measurement and Significance (Blood Ptosis), Am J. M. Sc **160**: 721, 1921; Test of Physical Efficiency, J A M A **76**: 1121 (April 16) 1921.

9. Their pulse rate increases less with excerise (table 1).

10. Their pulse returns more rapidly to normal after exercise (table 1).

But some possess more novelty.

11. In athletic girls, the ratings of the Schneider and Crampton methods are higher than in the nonathletic (table 1).

TABLE 1.—*Pulse Rates, Return to Normal (E of the Schneider Test), Schneider Rating and Crampton Percentages*

Group	Age	Condition	No. of Cases	Pulse: Lying	Pulse: Standing	Pulse: After* Exercise	Pulse: Return in Sec.	Schneider Rating	Crampton per Cent
1	13-19	Nonathletic	60	85	95	111	71	8 8	79
1	13-19	Athletic	40	74	80	94	66	14.2	85
1	13-15	Nonathletic	33	82	89	101	64	11	81
1	13-15	Athletic	13	73	80	89	63	15	82
2	13-15	Nonathletic	50	86	99	122	66	8	78
2	13-15	Athletic	50	82	93	112	63	11	87
1 and 2	13-15	Nonathletic	83	84	95	114	65	9	79
1 and 2	13-15	Athletic	63	80	90	107	63	12	86

* The exercise referred to is here and in the following tables that employed in the Schneider test.

TABLE 2.—*Blood Pressure and Their Derivatives**

	Lying				Standing				After Exercise			
	S. P.	D. P.	P. P.	P. PR.	S. P.	D. P.	P. P.	P. PR.	S. P.	D. P.	P. P.	P. P. × P. R.
Nonathletic...	112	74	38	3,230	115	76	39	3,588	123	76	47	4,935
Athletic.......	112	72	40	2,920	118	75	43	3,569	126	73	53	5,247

* Pulse pressure and pulse product = PP × PR.

TABLE 3.—*Distribution of Schneider Ratings*

	Athletic			Nonathletic		
Number of cases	13	27	63	33	83	27
Group............	1	1	1 and 2	1	1 and 2	1
Age..............	13-15	16-19	13-15	13-15	13-15	16-19
Grade						
18	..	4	..	..	..	..
17	23*	11	16	..	..	..
16	23	15	11	..	..	..
15	23	11	15	..	8	4
14	..	25	4	9	6	4
13	7	7	6	6	6	7
12	23	15	7	24	15	11
11	..	4	6	12	11	16
10	..	..	3	3	7	15
9	..	..	6	15	14	14
8	..	4	5	3	7	16
7	..	..	5	12	8	..
6	..	4	4	3	8	4
5	..	..	..	3	6	7
4	..	..	..	3	2	7
3	..	..	..	8	2	..
2	..	..	..	..	..	..
1	..	..	..	..	2	..
0	..	..	..	..	..	..
—1	..	..	..	..	1	4
—2	..	..	..	..	..	4
—3	..	..	..	..	1	..
—4	..	..	..	..	1	..
—5	..	..	..	3	..	..

* The table is read thus: 23 indicates that 23 per cent of the thirteen athletic girls of from 13-15 years of group 1 have a Schneider grade of 17.

12. In them, the range of the ratings by both of these criteria is smaller (tables 3 and 4).

13. There is no acceptable degree of correlation between the results of the Schneider and Crampton tests.[3]

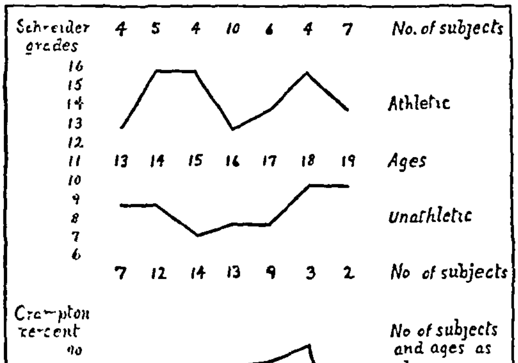
14. Athletic girls with a Crampton percentage of 65 or less have a Schneider grade of not less than 6 (table 5).

15. There are no athletic girls with a Schneider grade of less than 6 or with a Crampton percentage of less than 55 (table 5).

TABLE 4.—*Distribution of Crampton Percentages*

	Athletic			Nonathletic		
Number of cases	13	27	63	33	83	27
Group	1	1	1 and 2	1	1 and 2	1
Age...	13-15	16-19	13-15	13 15	13-15	16-19
Percentage						
125	..	..	1	..	1	..
120	..	..	..	..	..	..
115	..	..	3	..	..	..
110	..	..	..	..	2	..
105	8*	11	6	..	2	4
100	..	7	3	3	6	4
95	..	19	5	..	3	..
90	15	11	12	12	10	11
85	23	19	10	30	20	19
80	23	26	18	33	23	22
75	23	4	16	6	12	22
70	8	4	9	6	4	7
65	..	..	3	9	5	4
60	..	..	2	..	2	4
55	..	..	1	..	2	4
50	..	..	..	..	2	..
45	..	..	..	..	1	..
40	..	..	..	..	1	..
25	..	..	..	..	2	..

* The table is read thus: 8 indicates that 8 per cent of the thirteen athletic girls of from 13 to 15 years of group 1 have a Crampton percentage of 105.



Average Schneider grades for the various ages mentioned and also the average Crampton percentages. This refers to group 1 only.

16. Nonathletic girls having a Schneider grade of less than 6 have usually a Crampton percentage of not more than 85, though it may be 100 or even 122 (table 5).

17. Nonathletic girls having a Crampton percentage of 65 or less do not have Schneider ratings of more than 12; 55 per cent. 9 (table 5).

18. One may expect a fall in the Schneider grade at the ages of 15 to 17 inclusive in both athletic and nonathletic subjects (chart).

19. A similar decrease occurs in the Crampton percentage, but only in the case of nonathletic individuals (chart).

20. Girls with a Schneider grade below 6 or a Crampton percentage below 70 should receive especial care (tables 3 and 4).

21. In athletic girls the various Schneider factors have a superiority over those of the nonathletic in the order A, D, B-E, C, F, and it would therefore seem that factors A and D are of the greatest importance as criteria of physical efficiency, while C and F are of the least importance (table 6).

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[3]
$$\frac{\frac{\Sigma\,(xy)}{n} - Mx \times My}{\sqrt{\frac{\Sigma\,x^2}{n} - M^2x} \times \sqrt{\frac{\Sigma\,y^2}{n} - M^2y}} = r$$

In this equation Σ is sum of; x, Schneider's grades; y, Crampton's percentages; n, number of subjects; Mx, mean or average of x; My, mean or average of y; r, coefficient of correlation of x and y. By means of this equation the forty athletic and the sixty unathletic girls of group 1 were found to have coefficients of + 0.38 and + 0.296, respectively.

TABLE 5—*Crampton Percentages of Girls with Low Schneider Rating and Schneider Ratings of Those with a Low Crampton Percentage*

	Nonathletic				Athletic			Nonathletic		
No of cases	33	50	27		13	50	27	33	50	27
Group	1	2	1		1	2	1	1	2	1
Age	13 15	13-15	16-19		13 15	13 15	16 19	13 15	13 15	16-19
Sch Grade	Cor resp	Cramp	%	Cramp %	Cor resp	Sch Grade				
5	80*	122	100	65	None	8	None	11	6	8
		85	80	.		7		12	3	..
	.	75	.			7	..	12		
	..	75	..	60	..	7	..	..	9	2
		50		.		6	..	..	—1	..
4	80	72	75	55	.	9	..	..	9	4
			55			.	..	..	8	.
3	80	65	.	50	..	..	..	..	9	..
2		.	60		.	..	..	..	5	..
1	..	80	..	45	..	..	..	..	—3	..
	..	80		40	..	.	..	..	8	..
—1	..	60	80	25	..	.	..	..	8	..
—3	.	45		.			..	..	—4	..
—4	.	25	.	..	.	..	..	..	..	..
—5	80		..	..	.		..	..	..	..

* Each figure represents a single subject

TABLE 6—*Difference in Percentage Between the Athletic and the Nonathletic in Respect to Each of the Factors in the Schneider Test*

Schneider Factor	Athletic	Non athletic	Sum	Difference	Dif × 100 / Sum
A	2 4*	1 0	3 4	1 4	41
B	2 7	1 8	4 5	0 9	20
C	2 7	2 0	4 7	0 7	14
D	2 3	1 0	3 3	1 3	39
E	2 7	1 8	4 5	0 9	20
F	2 5	2 2	4 7	0 3	6

* The table is read thus 2 4 indicates the average rating of the athletic girls in respect to the factor A of the Schneider test The table refers to group 1 only

TABLE 7—*Distribution of the Grades Among the Various Factors of the Schneider Test*

		Athletic			Nonathletic		
Group		1	1	1 and 2	1	1 and 2	1
Age		13 15	16 19	13 15	13 15	13 15	16 19
Schneider Test Factor	Rating						
A	3	46*	30	26	3	1	
	2	38	59	42	36	35	37
	1	15	4	21	27	32	22
	0	.	7	9	27	24	30
	—1	..	..	1	3	3	7
	—2	..	..	.	3	3	4
B	3	77	30	52	18	1	15
	2	23	59	26	39	35	44
	1		4	13	30	32	25
	0		7	5	9	24	11
	—1	.	.	5	.	3	4
	—2	.	.	.		3	.
C	3	61	44	5	9	39	4
	2	38	52	64	66	48	81
	1		4	23	21	12	4
	0	..		6	3		11
D	3	53	19	31	3	1	11
	2	46	63	35	27	23	25
	1	.	11	15	36	35	33
	0	.	7	11	27	20	15
	—1	..	.	5	3	7	15
	—2	..	.		3	5	
	—3	.	.			6	.
F	3	61	44	72	24	49	22
	2	38	44	21	45	26	59
	1	.	7	4	27	17	15
	0		4	2	3	5	4
F	3	15	63	32	27	38	25
	2	69	37	58	69	52	48
	1	15	..	8	3	1	11
	0					2	11
	—1	..	.				11

* The table is read thus 46 indicates that 46 per cent of the athletic girls of 13 to 15 years of group 1 have a rating of 3 in respect to factor A of the Schneider test

22 The study of the distribution of grades in respect to the various factors of the Schneider test indicates that in order of decreasing physical efficiency we have athletic 13 15, athletic 16-19, nonathletic, 13-15, nonathletic 16-19 (table 7)

On perusal of these twenty-two statements, one is led to try to picture to oneself the athletic girl, and, bearing in mind that we shall continue to use the comparative degree always with reference to the unathletic girl, we may thus speak of the athletic girl:

As for the increase of her pulse pressure on standing, the rise of her diastolic pressure under like circumstances, the rise in systolic pressure and the fall in diastolic found after exercise, the values of her pulse product whether lying, standing or after exercise, the athletic girl differs but little (if at all) from her unathletic sister. On the other hand, her resting pulse is slower, her pulse pressure larger; on rising from recumbency her pulse quickens less, it is less after exercise, and it returns more promptly to normal Her Schneider rating is not less than 6 and her Crampton percentage not less than 55 If her age is between 15 and 17, one might expect to find her Schneider rating near the lower level of her class

That neither Atalanta nor Penthesilea would recognize herself in this description need not surprise us Their point of view was different from ours.

A SPECIFIC INHIBITORY HORMONE OF THE CORPUS LUTEUM

ITS CONTRAST WITH THE FEMALE SEX (FOLLICULAR) HORMONE *

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The corpus luteum, in its function as an endocrine gland, has a definite inhibitory effect on ovulation and menstruation or estrus. The suppression of these phenomena during pregnancy is an example of this effect The removal of the corpora lutea abolishes this inhibitory effect and accelerates the appearance of the next period, as was first demonstrated experimentally by Leo Loeb[1] In experiments performed along similar lines with guinea-pigs, I[2] found that after complete removal of the corpora lutea the ovulation and estrus return on the eleventh day, while in normal guinea-pigs estrus usually returns at the fifteenth or the sixteenth day These findings indicate that the corpora lutea exert an inhibitory action, suppressing and delaying the process of ovulation in the rhythmic function of the ovary

I have used this inhibitory function of the corpus luteum as a criterion for studying luteal extracts and especially for the recognition of the specific luteal hormone

The guinea-pig is a particularly suitable animal for such an investigation, on account of the regularity of its estrual cycle The use of the vaginal smear examinations[3] makes it possible to detect the return of estrus in a very exact way Numerous animals have been killed at different periods for the study of the ovaries and other genital organs

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* From the Department of Anatomy, Cornell University Medical College

* This work has been aided by the Committee for Research on Sex Problems of the National Research Council

[1] Loeb, Leo Deutsche med Wchnschr, 1911, no 1

[2] Papanicolaou, G N Anat Rec, 1921

[3] Stockard C R, and Papanicolaou, G N Am J Anat 22:225 (Sept) 1917.

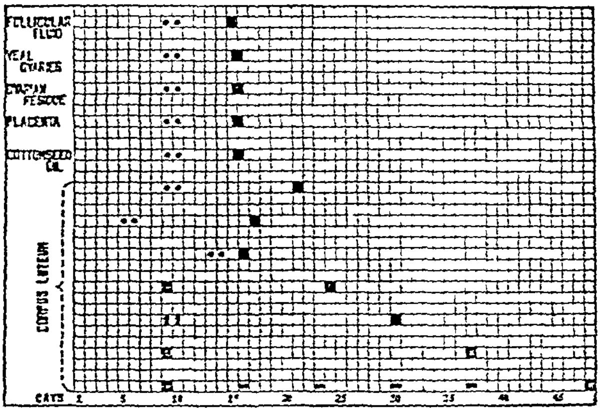
The animals employed in this work have been first tested in regard to the regularity of their estrual cycle and then given injections of various luteal and other ovarian extracts.[4] A lipoid luteal fraction was soon found to give positive results, causing a definite inhibitory effect and delaying ovulation and estrus for a period of several days.[5]

Some of the purified extracts have been highly efficient in their inhibitory effect. An unmistakable delay follows each injection of this hormone given in small quantities of from 1 to 2 cc. By giving weekly one injection of from 1 to 2 cc., it is possible to suppress the process of ovulation indefinitely. Through such a procedure, I have been able to suppress ovarian rhythm in several animals for a period of from two to four months. At the end of this period the injections were discontinued, and ovulation reappeared several days after the last injection. The ovaries of animals killed after long suppression show a complete absence of corpora lutea and a large number of middle sized follicles with a highly congested theca interna. This congestion of the theca interna causes an early atresia and prevents the follicles from enlarging into mature graafian follicles. The old corpora lutea degenerate gradually, and the ovary becomes practically free of luteal tissue. The full growth of the follicles and the process of ovulation are thus suppressed, and the ovary thereby loses its cyclic rhythm. This effect is evidently specific and is caused only by the subcutaneous administration of luteal extracts. Similar extracts prepared from other parts of the ovary (follicular fluid, cystic fluid, ovarian residue) and from other organs (placenta, thyroid, thymus, testes and immature ovaries) in all cases gave negative results. It seems evident that this particular hormone is typical for the corpora lutea.

The accompanying chart illustrates the effect on ovulation and estrus of extracts all prepared by the same method from follicular fluid, veal ovaries (prepubertal ovaries having no corpora lutea), ovarian residue (after complete removal of corpora lutea), placenta and corpora lutea. The effect of cottonseed oil, which has been largely used as a solvent, is also recorded. This chart shows that all the extracts, with the exception of the luteal, fail to delay ovulation, which returns at the expected time; i. e., the fifteenth or sixteenth day. Much larger doses than those recorded in the chart also gave negative results. The luteal extracts, on the other hand, cause a definite delay. The injection of 1 cc. each on the ninth and tenth day delayed ovulation for five days in the case recorded in this chart. When similar injections are given much earlier, or much later—for instance, the fifth or sixth or the thirteenth or fourteenth day—the delay is less pronounced. The best results have been obtained when the injections were given about a week before the expected ovulation. A larger dose produces a longer delay, as is shown in the chart after the injection of from 4 to 6 cc. Injections given on two or more consecutive days seem to be more effective than a single injection of the combined amount. The continuous administration of luteal hormone at regular intervals delays ovulation indefinitely. In the case recorded in the chart, 4 cc. was given at first and then 2 cc. weekly for four weeks, after which the injections have been discontinued. The ovulation returned at the forty-eighth day; i. e., eleven days after the last injection. If these injections had been continued, the ovulation would have been longer delayed.

The uniformity of results obtained with a large number of tests leaves no doubt that we possess a very simple method of recognizing, isolating and standardizing the proper luteal hormone.[6] No confusion seems possible between this hormone and the female sex (follicular) hormone The female sex hormone itself has been repeatedly identified in the corpus luteum, especially in its early stages, in the luteal fluid and in the luteal cysts[7] This fact has caused a great deal of confusion. The corpus luteum is evidently able to secrete both hormones the female sex hormone is probably secreted by the undifferentiated theca or granulosa cells, while the specific luteal hormone is probably formed by the fully differentiated luteal cells, the latter increasing in number with the advancing differentiation and development of the corpus luteum.

Such a view is supported by the recent experimental work of Zondek and Aschheim.[8] These authors have implanted late postmenstrual corpora lutea in spayed mice and have found that no female sex hormone reaction has been induced on the genitalia. On the other hand, premenstrual and menstrual corpora lutea as well as theca cells have given a positive reaction. The failure to recognize that two different hormones may exist in the corpus luteum, and the lack of proper methods for their separation and study, have been a continuous source of confusion. Most investigators have used and are still using the standard castration test[9] for their work with luteal extracts. Such a



The inhibitory effect on ovulation of injections of a similar lipoid fraction extracted from (a) follicular fluid, (b) veal ovaries, (c) ovarian residue, (d) placenta, and (e) corpus luteum. Cottonseed oil was also injected as a control Each black circle indicates one injection of 1 cc. The black squares indicate the day of the following ovulation method prevents one from discriminating between the proper luteal and the female sex hormone. Positive as well as negative results have been reported, indicating that the female sex principle may or may not be present within the corpora lutea.

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[4] These extracts were first prepared at the Loomis Laboratory by N. F. Blau, in cooperation with John D Rogers Later, I have used highly purified and more efficient extracts prepared by the Eli Lilly Research Laboratories

[5] Papanicolaou, G N: Proc Soc Exper. Biol & Med. **22**: 106, 1924

[6] The minimum amount of extract required to postpone the ovulation of guinea pigs for five days when given in two equal injections on the ninth and tenth day after the preceding ovulation, has been considered as the equivalent of 5 units Thus, one unit theoretically represents the amount required to postpone the ovulation of a normal guinea pig for one day It is preferable to standardize these luteal extracts on a 5 unit rather than a 1 unit basis because the postponement of ovulation for one day falls too closely within the limits of normal variability

[7] Adler, L. Arch f Gynak **95**: 349, 1911. Frank, R, and Rosenbloom, J Surg, Gynec & Obst. **21**: 696, 1915 Hermann, E.: Monatschr f Geburtsh u Gynäk **41**: 1, 1915 Papanicolaou, G N, and Blau, N F Proc Soc Exper Biol & Med. **21**: 164, 1923 Allen, Edgar, Pratt, J P, and Doisy, E A Ovarian Follicular Hormone, J. A M. A. **85**: 399 (Aug 8) 1925. Zondek, B, and Aschheim, S: Arch f Gynak **127**: 250, 1925

[8] Zondek, B, and Aschheim S Klin Wchnschr **4**: 1388 (July 16) 1925

[9] This method consists in the removal of both ovaries and then testing the effect of extracts on the genital tract. This method has been improved by Allen and Doisy with the introduction of vaginal smears

The proper luteal hormone and the female sex hormone act in an entirely different way from each other and are, to a certain extent, antagonistic. The luteal hormone inhibits and delays ovulation and estrus, whereas the female sex hormone rather accelerates these processes to a limited extent. The luteal, in a purified state, does not excite estrus and does not cause hypertrophy in the genital tract of spayed females, as the female sex hormone does to a striking degree. Both are active during pregnancy, but act in different manners. The one inhibits, the other stimulates. The two, however, act simultaneously. The oral administration of extracts containing the luteal hormone gave no results, though large doses have been used. From a practical point of view, this method of administration cannot be utilized at present.

477 First Avenue.

GENERALIZED ALOPECIA

REPORT OF THREE CASES, WITH ONE NECROPSY *

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AND
N. W. WINKELMAN, M.D.
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The universal loss of hair from the body has occasionally been described in medical literature and, although no constant etiologic factor is present in such a condition, various causes have been ascribed, most of them on theoretical grounds. Alopecia areata infrequently produces a universal falling out of the hair. In syphilis loss of hair occurs, but it is seldom complete; Chambers,[1] however, in 1901 reported the case of a woman, previously treated for interstitial keratitis, whose hair fell out in patches when she was 5 years old, but it returned in a short time. At the age of 12, her hair began to fall out again, and with the exception of two small, fine ones on the anterior portion of the scalp, she had no hair on the entire body at the age of 20. Arnett[2] cited a case which he thought was due to syphilis; the patient was 26, and had lost his hair eight years previously; the Wassermann reaction was strongly positive, and at the end of seventeen months of antisyphilitic treatment the hair was entirely restored. This patient had had two previous attacks, one at the age of 6 and the second at the age of 12, and in both the hair returned with the employment of only local measures. Thompson's[3] case occurred in a man, aged 23, who, two months after the appearance of a chancre, lost all his hair and four years later there was no return. Alfred[4] saw a case of generalized alopecia, which apparently had resulted from scarlet fever in early childhood. Sajous[5] reported the case of a woman, aged 30, otherwise in good health, who in less than a week lost the hair of the entire body, not even an eyelash remaining. Different lines of treatment were used over a period of two years, and the only one that proved effective was a capsule containing 1 grain (0.06 Gm.) of thyroid extract, 2 grains (0.13 Gm.) of suprarenal extract and 2 grains of iron given three times daily. Sajous says that this was "effective," but he does not say restoration of hair occurred, although it is presumed that this is what he meant.

According to Stelwagon[6] thallium, if given for a long time, will produce universal loss of hair. Buschke and Peiser[7] fed young rats on bread dipped in a 1 : 5,000 solution of thallium acetate, and the rodents lost all their hair in a month. In addition, their growth was stunted and they presented a cretin-like appearance. These writers believe that the endocrine glands showed a selective toxic effect, and the whole organism suffered secondarily through intermediation of the ductless glands. Experiments on tadpoles with thyroid treatment to counteract the thallium have been confirmatory of this belief. In the treatment of epilepsy with borax, Féré[8] said that it is not rare to see a generalized alopecia produced.

Localized loss of hair may be due to the injury of a nerve or posterior root. In 1886, Max Joseph[9] demonstrated that section, in an animal, of the posterior branch of the second cervical nerve, between the ganglion and the cord, produced an alopecia in the area supplied by this nerve. This was confirmed by observers in 1887 and 1888.

There undoubtedly is a close relationship between the glands of internal secretion and the sympathetic system, in regard to the growth, character and changes in the hair. Like so many things in endocrinology there are few, indeed, proved facts in regard to the influence of the glands of internal secretion on the sympathetic system and the hair. It is well known that disturbances in the growth and character of the hair occur in certain diseases of the ductless glands, such as myxedema, exophthalmic goiter, Fröhlich's syndrome and tumors of the suprarenal, but the exact mechanism by which the changes are produced is not known. The hair changes in pregnancy and at puberty are also dependent on the endocrine glands.

Pulay[10] states that at the menopause, either natural or surgical, while the hair falls from the scalp, there is simultaneously an increased growth on the face, and he believes that this is due to cessation of action of the ovaries and decreased function of the pituitary.

C. Todde[11] cited the case of an officer, aged 34, who, following the stress of living at the front and after weeks of incessant bombardment, lost every hair on his body. This man also presented symptoms suggestive of exophthalmic goiter. Todde's case is similar in some respects to our second case.

Meachen and Provis[12] reported an instance of generalized alopecia cured by pregnancy, which relapsed with the reestablishment of the menses. The patient was 31, had been married eight years, and had had four children and two miscarriages. In the sixth month of her second pregnancy the hair began to fall, and

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* From the Department of Neurology of the University of Pennsylvania School of Medicine, the Neurologic Service of the Episcopal Hospital, and the Laboratory of Neuropathology of the Philadelphia General Hospital.

1. Chambers, Graham: Alopecia Universalis, J. A. M. A. **36:** 57 (Jan. 5) 1901.
2. Arnett, U. G.: Am. J. Syph. **6:** 131 (Jan.) 1922.
3. Thompson, L. O.: Syphilis, ed. 2, Philadelphia, Lea and Febiger, 1920, p. 112.
4. Alfred, A. R.: U. S. Nav. M. Bull. **13:** 539 (July) 1919.
5. Sajous: Internal Secretions and Principles of Medicine, Philadelphia, F. A. Davis Company, **2:** 1827, 1920.
6. Stelwagon, H. W.: Diseases of the Skin, Philadelphia, W. B. Saunders Company, ed. 9, p. 1047.
7. Buschke, A., and Peiser, B.: Med. Klin. **18:** 731 (June 4) 1922.
8. Féré: Compt. rend. Soc. de biol. **5:** 987-989, 1893.
9. Joseph, Max: Presse méd., 1922, p. 855.
10. Pulay, E.: Med. Klin. **18:** 1369 (Oct. 22) 1922.
11. Todde, C.: Riforma med. **36:** 382 (April 17) 1920.
12. Meachen and Provis: Brit. J. Dermat. **24:** 272, 1912.

when the child was 5 months old she "hadn't a hair on her head." During the third pregnancy the hair grew, nearly all of it returning. Then a stillbirth occurred, and when the periods reappeared the hair fell out again; this time all the hair of the body disappeared. She became pregnant again, and from the first month of the pregnancy the hair began to return, so that she had a splendid crop except in two small patches. When this child was 5 months old, the hair once more fell out and the finger-nails also became affected. March 26, 1912, when Meachen and Provis saw her, the scalp was bare, except for a few scanty strands of rather coarse black hair. The eyebrows and eyelashes were absent, although the remaining parts of the body were not absolutely alopecic. The finger and toe nails were lusterless and longitudinally striated, and presented numerous fine pits, especially on the lunulae. At the time of their presentation of the patient, June 20, 1912, the scalp was totally bald, and the other parts of the body were also denuded. The patient presented no signs of syphilis, but a Wassermann reaction of the blood had not been taken. In the discussion of this case, Sequeira said that he has seen several cases in which there had been a complete loss of hair after delivery, and he had under his care at that time a woman who had lost her hair on three occasions. The hair returned between the first two pregnancies, but after the third the loss of hair was permanent. He also had under his care at that time a second patient, who had complete alopecia after delivery but when seen twelve months later, the hair was returning.

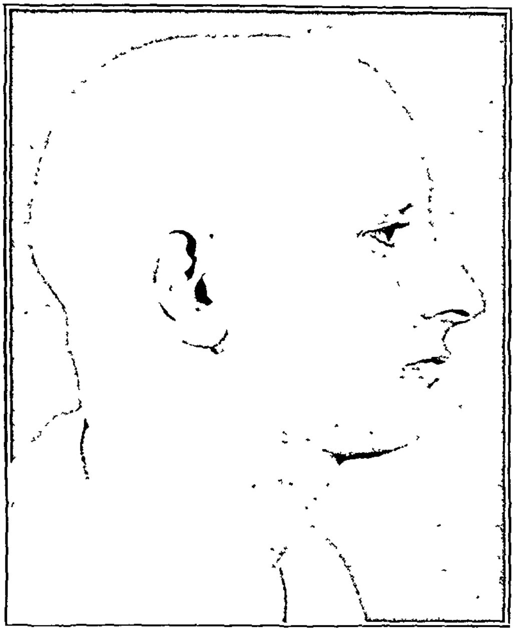

Fig. 1 (case 2).—Loss of hair from scalp and eyebrows as result of alopecia.

Eddows[13] exhibited a patient showing generalized alopecia, leukoderma and scleroderma. The universal alopecia came on after an attack of scarlet fever at the age of 8. Nothing new occurred until the boy was 14, when he awoke one morning with itching hands and shortly after he noticed that his skin was becoming brown. At the time of presentation, the patient was entirely piebald. Large patches of leukoderma were at that time encroaching on all the brown areas. Improvement occurred under the administration of thyroid extract.

REPORT OF CASES

The cases reported here are instructive in the consideration of generalized alopecia:

Case 1.—*History.*—A white woman, aged 49, admitted to the Episcopal Hospital, March 7, 1923, complained chiefly of general weakness. The family and personal histories were negative, with the exception that eight years before admission to the hospital, she had had a complete hysterectomy. She had never been married or pregnant. The onset of the trouble was one year after the operation (or seven years previously), when the patient began to have severe headaches. At this time the hair of the body commenced to fall out, and in six months all of it had disappeared. Three or four months before admission to the hospital, a few hairs returned on the front of the scalp. Shortly after the appearance of the headaches, she suffered from generalized convulsions every five or six months; in these attacks she was unconscious, bit her tongue, had relaxation of the sphincters, and slept for several hours afterward. The last fit was a year before her admission. During the last year, she had severe frontal headaches, which were sudden in onset, lasted from five to ten minutes, and were accompanied by nervousness and anxiety. About two months before admission, she had an attack of influenza, from which she made a poor recovery, muscular weakness being so pronounced that she could not walk, and because of this she lost ambition and desired to be left alone. Following the attack of influenza, she was very nervous and so "shaky" that she could not lift a glass of water without spilling it. She had neither pulmonary nor cardiac symptoms and said she had not lost weight.

Examination.—The woman was thin and undersized, and lay in bed apparently suffering no pain, although she was nervous and apprehensive. The skin was dry and putty colored. Eight teeth remained, and the tongue was soft and flabby. The lungs, heart and abdomen were normal, except that the right kidney was palpable. All the hair of the body including the eyelashes was absent, with the exception of a small tuft on the anterior portion of the scalp. The deep reflexes, ocular nerves and pupils were normal. No ataxia was present in the finger to nose test, although a coarse intention tremor was easily brought out in both upper extremities, especially on the right. Extreme asthenia was present, so that the patient was unable to repeat an act any length of time, in this way resembling a case of myasthenia gravis. The systolic blood pressure was 95; diastolic, 65. The temperature was subnormal practically throughout the hospitalization. The eye examination by Dr. F. Krauss revealed a primary, bilateral optic atrophy.

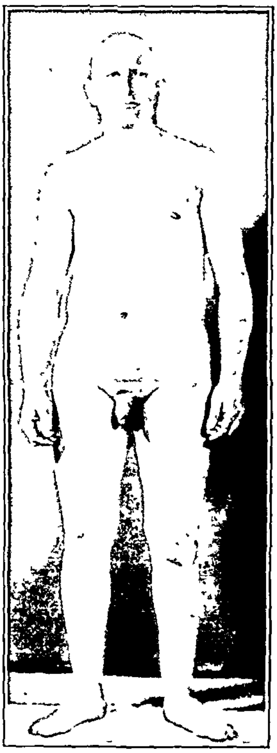

Fig 2 (case 2).—Complete loss of body hair.

The urine was normal, with the exception of an occasional cast and on two occasions a faint trace of albumin; it was reduced in amount, on one occasion measuring 240 cc. in twenty-four hours and on another 775 cc. The routine blood and Wassermann examinations were negative. The blood sugar was estimated on two occasions; the result of the first examination was 30.42 mg. per hundred cubic centimeters and the second, 54.8 mg. The spinal fluid was normal, and the roentgenogram of the skull and sella turcica was negative

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[13] Eddows: Brit J. Dermat **11**: 325, 1899.

Clinical Course and Outcome.—Seventeen days after admission the patient had a severe headache, which was promptly relieved by an ordinary headache powder. Two days later she had a similar headache, and in this became nervous and agitated. On the day before she died she complained of headache, was drowsy and ate practically nothing all day. Spinal puncture was done late on this day, and she died suddenly at 5 o'clock the next morning.

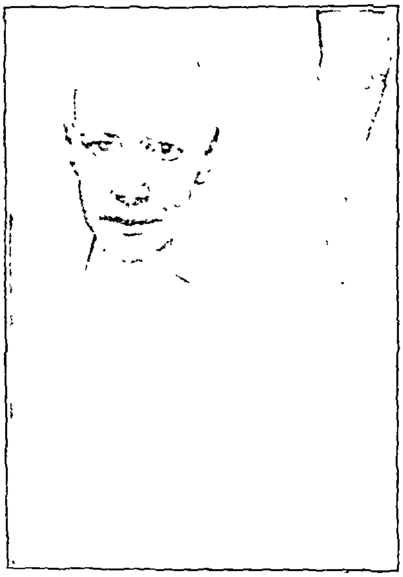

Fig. 3 (case 3).—Loss of hair on head and [illegible]

Pathologic and Microscopic Reports.—Necropsy was performed five hours after death. The skull was normal, except for a carious condition and enlargement of the sella turcica. The brain and ductless glands were removed for study. The brain was rather large, especially in its lateral diameter, and the convolutions were flattened. The pia-arachnoid was thin and translucent: little vascular sclerosis was present. Bulging of the third ventricle was especially looked for, but could not be made out. On transverse section, it was found that the posterior portions of the lateral ventricles were dilated; the anterior division was filled with a soft, discolored mass not attached to the ventricular walls on the left, but adherent to the under surface of the corpus callosum and the walls of the right lateral ventricle. Both caudate nuclei were compressed. The tumor extended into the right frontal lobe, where it expanded into a mass 3 by 2.5 cm. The right island of Reil was involved and the third ventricle was filled with tumor tissue, but the neoplasm did not extend to the bottom of the third ventricle. Microscopic study of the growth showed it to be a typical glioma. Microscopic study of the tuber cinereum revealed a distorted but comparatively normal structure.

The pituitary, examined by Dr. E. B. Krumbhaar, was large; acidophilic hyperplasia was noted in the center, with a cyst containing degenerated cells and coagulated material, lined with tall columnar epithelium, with invasion of round cell nuclei in the immediate vicinity. Small hemorrhages could be made out. The suprarenal was in the resting stage and showed slight interstitial irritation. The pancreas was the seat of moderate fatty infiltration. The thyroid, parathyroids and pineal were normal.

Case 2.—A white man, aged 31, stated that he first observed a gradual loss of hair over the entire body after undergoing some harrowing experiences in France during the war, and within a few months the entire body was denuded of hair with the exception of the eyelashes and one or two small, fine hairs on the upper lip; an increase in weight was also noted.

When we saw him, five years later, the patient presented the picture of a complete alopecia, with the exception of the eyelashes (figs. 1 and 2). In addition the skin was soft and velvety: the breasts were slightly enlarged and he was 20 pounds (9 Kg.) above his usual weight. The gonads were small. In all other respects, the general physical examination was negative. A roentgenogram of the sella turcica was negative, and the blood chemical findings were within normal limits, the blood sugar being 80.

Case 3.—*History.*—A waitress, aged 33, unmarried, admitted to the Episcopal Hospital, May 21, 1925, born in Norway, had been in the United States sixteen years. The past history was unimportant. The menses were normal and she had never been pregnant.

Her chief complaint was loss of hair over the entire body. In August, 1923, she noticed some bald spots on the back of her head. By Christmas of that year, all the hair had disappeared from the head, eyebrows, eyelashes, and the hair from the rest of the body disappeared soon afterward. She had lost 40 pounds (18 Kg.) since the onset of the trouble. She had had various lines of treatment, but nothing seemed to cause a return of hair.

Examination.—The patient was tall, angular and emaciated. Physical and neurologic examinations were entirely negative, except that all the hair of the body was absent (figs. 3 and 4). The roentgenogram of the sella turcica revealed no evidence of abnormality. The eye grounds and fields were normal. The temperature showed little if any deviation from the normal throughout the stay in the hospital. The urine and spinal fluid were normal. The blood chemical findings and blood Wassermann reaction were negative. The blood count was not unusual, with the exception of an eosinophilia of 6 per cent. for which no cause could be found.

A piece of scalp was removed and submitted to Dr. Fred D. Weidman, professor of dermatologic research at the University of Pennsylvania, who found that the plane of excision from the scalp had passed through the deepest parts of the corium.

Epiderm: The uppermost parts of the stratum corneum were loose, but the layer as a whole was thin. The granular layer was likewise thin, and its cells appeared normal. The prickle layer averaged four or five layers of large, normal appearing cells with large spherical nuclei. The intercellular spaces were normal, prickles being recognizable only on careful search. The basal layer consisted of only one or two layers of cells; these were not quite normal in appearance, because they conformed so closely to those of the prickle layer. Thus, they averaged larger in size; the nuclei were large and not particularly elongated, and the chromatin was not condensed. The interpapillary pegs were, if anything, less highly developed than normal. On the whole, the epiderm seemed to be, clinically speaking, thin, soft and supplied with a full amount of watery material, the latter, of course, bound up with the protein molecule (hydrophil colloid).

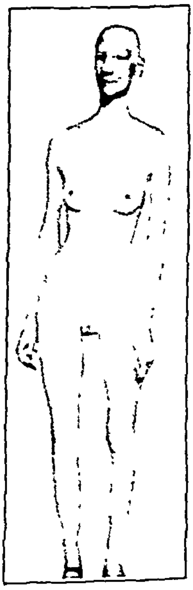

Fig. 4 (case 3).—Loss of body hair.

Corium: The pars papillaris appeared normal. The collagen bundles of the deeper parts took on the appearance of being separated into sectors by reason of the looseness of perivascular, perifollicular and perisudoriferous fibrous tissues. In the latter positions, the spindle cells were swollen and notably hyperplastic; only small numbers of lymphocytes were intermixed. The blood vessels (capillaries were the only ones included in this section) were numerous, and appeared in these sections in clusters. Dr. Weidman did not believe that this was the effect of tortuosity but rather of multiplication. Their lining cells were plump and hyperplastic. As indicated above, they were surrounded by a loose reticulum, on which goodly numbers of swollen spindle cells were disposed.

Hair Follicles: These generally occurred in groups of three or four. They were numerous. The most conspicuous feature consisted in the absence of the hair shaft; in its stead a loose, pink, fibrillar material appeared, which was identical in appearance with the corneous substance on the skin surface. The sheath consisted, on an average, of eight or ten layers of cells, and was a replica of the surface epiderm. Thus, those parts of the follicle which lay closer to the surface exhibited a most sharply and fully developed stratum granulosum; if anything, a basal layer was better indicated here than on the surface. However, no prickle cells could be made out. In deeper portions of the follicle, there was a delicate, threadlike, hyaloid (but doubtless keratinous, chemically) zone lining the lumen of the hair follicle. Its wavy contour reminded one of the elastic membrane in arteries and perhaps of the cuticle-like lining of sweat ducts. It is regretted that none of the bulbs of follicles were included in these sections.

Sebaceous Glands: These were most inconspicuous for a position like the scalp, although they might have been more fully represented if deeper portions had been available for study. As it was, only small groups of cells adjacent to the hair follicle could be found. Those that were exhibited appeared normal.

Sweat Glands: Again, since the examination was restricted to the upper portions of the scalp, the deeper parts, such as the secreting coils, were not represented. Ducts, however, were numerous. The lumina were narrow and their lining cells plump and of normal appearance.

Comment and Summary: No exceptions could be taken against the epiderm; if anything, it appeared to be biologically more active than normal. The important changes were those of the hair shaft, together with the assumption of epiderm-like qualities on the part of the sheath. The second significant feature was the hyperplasia of the capillaries and of the spindle cells around them; but there was nothing to indicate whether this was a primary or secondary factor in the case. The same was true of the scarcity of sebaceous glands, but in this case the explanation was at hand in the form of the secondary atrophy of disuse.

Supplementary Note: In subsequently cut sections, the lowermost portions of some hair follicles were presented for study. Now the whole follicle was less than half the size of those elsewhere, and easily overlooked. The peripheral parts of the sheath merged with the surrounding loose fibrous tissue by reason of an edema, which affected both of these members. The sheath consisted of only two or three layers of cells, the basal ones not being recognizable as such. The center of the follicle consisted of some pink, probably keratinous substance, enclosing numerous epithelial nuclei. The latter were degenerate—some were swollen and pale, while others were shriveled, solid and almost black. Small numbers of lymphocytes and one or two polymorphonuclears appeared in the neighborhood of these follicles. The appearance was not that of an inflammation and fibrosis which was inducing an atrophy of the follicle, but more that of a primary atrophy. The surrounding loose fibrous tissue and minor cellular infiltrate might be interpreted as reactions to disintegration products of the hair shaft that were once present.

The histologic diagnosis was atrophy of the hair follicle and sebaceous glands and "epidermization" of hair follicle.

SUMMARY AND CONCLUSIONS

These three cases are examples of generalized alopecia. In the first, the condition came on one year after a complete hysterectomy, with the coincident occurrence of symptoms that were due to brain tumor. The fact that removal of the ovaries usually produces hypertrichosis and also that the alopecia did not occur until one year later would militate against the possibility that the condition was ovarian in origin. The situation of the brain tumor directly over the pituitary and in the third ventricle produced erosion of the sella turcica which, with the low blood sugar and hypotension, was suggestive of a disturbance of function in the region of the infundibulum or pituitary, or both.

In the second case, the symptoms came on after severe emotional stress and here, too, there are symptoms referable to the pituitary region, although not necessarily a tumor. It may be said by some that emotional stress is incapable of producing such a marked disturbance of a ductless gland, yet we have seen exophthalmic goiter develop in a woman shortly after she had nearly drowned. Furthermore, the so-called neurocirculatory asthenia or effort syndrome which in certain cases may be of endocrine origin occasionally comes on after severe fright, and in this group of cases disability persists for many years. Other cases of universal alopecia following emotional stress have been recorded; thus, Sabouraud [14] described a case of profuse alopecia in a girl, aged 13, who lost her hair thirteen days after being raped, although the hair returned later. Boisser, Bidon and Morris [15] have all cited cases of generalized alopecia coming on after severe emotional stress.

The cause of the alopecia in the third case is unknown to us. In this case, as in the second one, we tried various glandular extracts over a period of one year but without results.

PUERPERAL FEVER

III. A COMPARISON OF THE INCIDENCE OF THE SKIN REACTIONS OF THE TOXINS FROM HEMOLYTIC STREPTOCOCCI FROM PUERPERAL AND SCARLET FEVER *

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CHICAGO

The production of a toxin by *Streptococcus hemolyticus* isolated from the blood of patients with puerperal fever has been demonstrated.[1] A comparison of the toxin with that produced by the specific *Streptococcus hemolyticus* of scarlet fever [2] by means of the skin test [3] was considered of interest.

The pathologic condition in puerperal fever produced by *Streptococcus hemolyticus* is the same as that of any hemolytic streptococcus infection elsewhere in the body. Thus, the various strains of the streptococcus, as those of erysipelas, scarlet fever or any septic focus, may produce the same picture, except in the case of the scarlet fever strain, which may also produce a scarlatinal rash. This similarity of pathologic pictures was

Comparison of Incidence of Dick and Puerperal Toxin Test

	Nonpregnant Normal Women (20)		Normal Pregnant Women (86)		Normal Puerperal Women (141)	
In 247 Women	Number	Per Cent	Number	Per Cent	Number	Per Cent
History of scarlet fever	5	25	8	9	5	3
Positive Dick tests	3	15	18	21	10	7
Positive puerperal toxin tests	2	10	12	14	6	4
Positive to the two tests in same patient	2	10	8	9	1	0.7
Positive Dick and negative puerperal toxin test in same patient	1	5	11	13	9	6
Positive puerperal toxin test and negative Dick reaction in same patient	0	0	5	5	5	3
Positive history and positive Dick test	1	5	2	2	0	0

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14. Sabouraud, R.: Presse méd. **31:** 14 (Jan. 6) 1923.

15. Boisser, Bidon and Morris, quoted by Stelwagon, Diseases of the Skin, p. 1048.

* From the Departments of Bacteriology and Pathology, and of Gynecology, University of Illinois College of Medicine.

1. Lash, A. F., and Kaplan, Bertha: Puerperal Fever: II, Streptococcus Hemolyticus Toxin and Antitoxin, J. A. M. A. **86:** 1197 (April 17) 1926.

2. Dick, G. F., and Dick, Gladys H.: Experimental Scarlet Fever, J. A. M. A. **81:** 1166 (Oct. 6) 1923.

3. Dick, G. F., and Dick, Gladys H.: A Skin Test for Susceptibility to Scarlet Fever, J. A. M. A. **82:** 265 (Jan. 26) 1924.

Leukoderma colli occurring in the late secondary or early tertiary period of syphilis is by no means a rarity. In some cases, isolated areas of leukoderma appear on more distant parts of the body, such as the forehead, chest or flanks.

It is our purpose in this paper to cite two cases in which the areas of vitiligo developed at the sites of a preexisting exanthem, and to show that treatment did not influence the lesions and that the smaller leukodermic areas disappeared as the result of repigmentation after treatment had been discontinued.

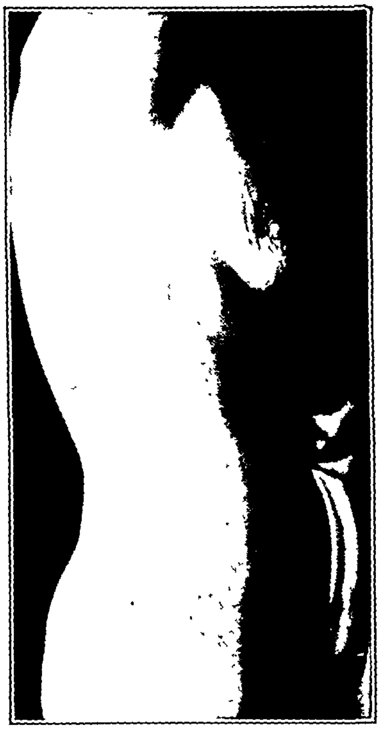
Fig. 2. — Leukoderma one year after development.

In October, 1924, a patient reported at the Baylor Hospital with a chancre on the genitals. The blood Wassermann reaction was 1 plus and the Kahn reaction 3 plus. Skin eruption did not exist. She disappeared from the clinic before a dark field examination was made. Three weeks later she returned, displaying a generalized macular eruption, mucous patches in the mouth, condylomata lata and an unhealed primary lesion. Three months later, there were depigmented macules on areas which were seemingly the sites of the preexisting exanthem. In spite of antisyphilitic treatment the leukodermic areas remained. Now, after about a year, some of the small leukodermic areas on the neck, upper chest and upper back have become repigmented. The repigmentation started at the periphery of the leukodermic areas and gradually encroached on the center. The other lesions have remained stationary, in spite of intensive antisyphilitic treatment.

In April, 1925, the daughter of this patient appeared at the clinic with a macular syphilitic rash, mucous patches in the mouth, and other signs of secondary syphilis. Macules in this case were ringed with mercurochrome-220 soluble. At the end of one week many of the pink macules had become depigmented. This shows how rapidly the areas of leukoderma can develop. At the end of three weeks every macule surrounded by mercurochrome had become depigmented, the areas of vitiligo exactly corresponding to the erythematous macules of the roseola.

SUMMARY

Three patients with a generalized syphilitic macular roseola developed, in the wake of this eruption, generalized macular leukoderma. Depigmented areas developed at the sites of the secondary syphilitic macules in from one to three weeks. The depigmented areas were not influenced by antisyphilitic treatment. The leukodermic areas disappeared as a result of repigmentation, which started at the periphery and gradually reached the center.

ENLARGED TUBERCULOUS TRACHEOBRONCHIAL GLANDS SIMULATING ASTHMA *

M. MURRAY PESHKIN, M.D.
AND
A. H. FINEMAN, M.D.
NEW YORK

Of several hundred children under observation in the asthma clinic the last four years, three were encountered in whom enlarged tuberculous tracheobronchial glands produced symptoms markedly simulating asthma. This condition, judging from the literature, is comparatively infrequent in this country. Because so much attention is being focused on protein hypersensitiveness as an exciting cause of asthma, these cases are likely to be and no doubt are frequently overlooked. This condition is a definite clinical entity and of grave prognostic import. Particularly in large cities with congested immigrant settlements are children prone to develop tuberculous gland infection. According to Schick, these cases are very contagious, and it is therefore important that an early diagnosis be made, so that they can be differentiated from the noncontagious condition of true asthma.

REPORT OF CASES

Case 1.—A. M., a girl, aged 2, referred to the asthma clinic, Sept. 27, 1924, was a full-term baby and one of twins, breastfed and apparently well up to 1½ years of age, when she developed measles followed by bronchopneumonia. At this time, she also contracted an acute right cervical adenitis, which spontaneously subsided after several weeks. After this she developed a cough and wheeze which were almost constant and associated with attacks of dyspnea seemingly asthmatic in character. During the summer of 1924, the cough, wheeze and labored breathing were less severe. This partial relief was attributed by the mother to "sun baths." From the beginning of September, 1924, the symptoms became progressively worse and were without remission. Perspiration was moderate. Occasionally there was a slight fever. There was no history of tonsillectomy likely to be followed by pulmonary complications or aspiration of a foreign body.

The father has been confined to an insane asylum for the past three years. Otherwise, the family history was negative.

When seen at the clinic for the first time, the child appeared in great distress. She wheezed considerably, was markedly dyspneic, and at first appearance seemed to be suffering with a severe attack of asthma. The musical sounds emanating from the chest could be heard at some distance. She was well nourished. The tonsils were moderately enlarged, and the throat was congested. There was a peculiar expiratory dyspnea which is characteristic of this condition. The chest was emphysematous, with the breath sounds diminished at the left base. Numerous rhonchi and sibilant and sonorous râles were heard throughout both lungs. The heart sounds were not easily heard because of the loud wheezing. The lower border of the liver was felt 4 cm. below the costal margin.

A subcutaneous injection of epinephrine hydrochloride (1:1,000) was administered and repeated at short intervals without relief. The Pirquet test was moderately positive. Repeated blood counts were relatively normal. The calcium

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* From the Children's Asthma Clinic, Mount Sinai Hospital.

first observed by Semmelweis in the necropsy of his friend Kolletschka, who died from a septic infection in his finger incurred during a postmortem, and in the large number of necropsies of the then frequently infected puerpera. Therefore, it was first determined by the Dicks'[4] method that the strain of *Streptococcus hemolyticus* from puerperal fever was not one of the scarlet fever strains.

The scarlet fever toxin was kindly given by the Dicks, already prepared for skin tests. The puerperal fever toxin was a 1 : 1,000 dilution. One tenth cubic centimeter of each toxin was separately injected intracutaneously into each forearm of the patients. The reactions were observed twenty-four hours later. The results of these observations are given in detail in the accompanying table.

ANALYSIS OF RESULTS IN TWO HUNDRED AND FORTY-SEVEN WOMEN

The low incidence of scarlet fever from the history of the pregnant and puerperal women is probably due to inherent immunity in this type of patient (at the Cook County Hospital) or to only slight attacks of scarlet fever which, though sufficient to immunize, were not severe enough to be noticed. The history of puerperal fever would have been of no value, as many organisms as well as different strains of streptococci may cause it. Again, the low incidence of positive Dick and puerperal toxin reactions can be explained by the natural immunity of the patients. The reactions of the two toxins in the same persons would indicate that a person may be immune to one strain of *Streptococcus hemolyticus* but not to another. Only in a few patients did a positive Dick reaction occur when those patients had a history of scarlet fever (less than 1 per cent). The positive skin reactions to the puerperal toxin used indicate the susceptibility of these patients to this strain of streptococcus, while there may be a greater or lesser number of positive reactions to other strains.

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[4] Dick, G. F., and Dick, Gladys H.: A Method of Recognizing Scarlet Fever Streptococci, J. A. M. A. **84**: 802 (March 14) 1925.

Bacterial Pollution and Natural Purification of Rivers.—Extended observations of the pollution of Illinois and Ohio rivers have indicated that the numbers of bacteria contributed per capita by the sewered populations of various cities are reasonably constant; these numbers change, however, with seasonal temperature, being much greater in summer than in winter. Such bacteria tend to increase in numbers in the receiving stream for a short period and then decrease at orderly rates as the time from the point of maximum density is increased. These rates of decrease were found to be affected by water temperature and apparently by concentration, being most intensive during the warmer months and under conditions in which the density of bacteria was greatest. Having established definite quantitative relationships from these observations, and assuming that they are fairly representative of stream conditions in general, a method is suggested for estimating the maximum concentration of *B. coli* in streams of known volume of flow that may be expected to result from pollution contributed by known sewered populations. Furthermore, the concentration of such organisms remaining at any point downstream may be estimated, provided the velocity of flow is ascertained. If the observations are representative of general biologic laws, they are of practical value for estimating the increasing burden placed on streams receiving the sewage of growing communities and, consequently, the added loads that water-purification plants must be prepared to handle where such polluted water courses are used as sources of water supply.—Hoskins, J. K.: *Pub. Health Rep.* **41**:330 (Feb. 19) 1926.

LEUKODERMA SYPHILITICUM *

BEDFORD SHELMIRE, M.D.
AND
THOMAS J. CALHOUN, M.D.
DALLAS, TEXAS

Hardy,[1] in 1853, under the designation of "syphilide pigmentaire du col" was the first to describe leukoderma colli. This type of syphilitic vitiligo has since been described by many syphilographers. It occurs most frequently in the sixth to the twelfth month after infection but may appear much later. Those affected are usually women under 35 years, the sites of predilection being the neck and adjoining cutaneous surfaces. The lesions are either discrete or confluent depigmented macules, round, oval or irregular, and from 0.5 to 1.5 cm. in diameter or larger. If discrete, they are separated by areas of normal or hyperpigmented skin. This gives the neck a peculiar mottled appearance, in accordance with the old description of a neck that has been sunburned through lace.

Various theories for the production of these lesions have been advanced. Some assert that the dark areas, others that the light areas, are on the sites of earlier syphilitic lesions. Some German authors regard the disorder as a syphilitic leukoderma on the site of a previous roseola. Fox[2] considers it of syphilitic origin but not a direct manifestation of syphilis. Duhring[3] states that it is a pigmentary phenomenon, probably not differing from chloasma. Freymann,[4] from a large number of cases of leukoderma in acquired syphilis, believes that it does not follow an exanthem but rather evidences a disease of central nervous origin which influences pigment distribution. It is probable that two distinct entities exist, one characterized by a depigmentation and the other by a hyperpigmentation. These may occur singly or together.

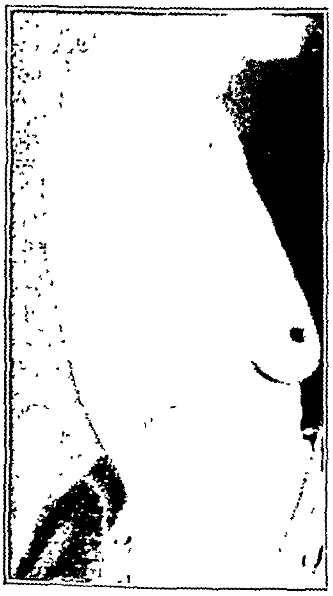

Fig. 1.—Appearance of leukoderma at time of development.

Leukoderma colli comes on insidiously, unknown to the patient, does not progress, and is recalcitrant to antisyphilitic treatment. Goodman[5] says, "Despite an extremely broad opportunity afforded me for observation of active cutaneous syphilitic patients in the primary and secondary periods of the disease, I have never been able to determine the beginning or end of leukoderma."

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* From the Department of Dermatology and Syphilology, Baylor University College of Medicine, service of Dr. J. B. Shelmire.

[1] Hardy: Maladies de la peau, Paris, 1853, p. 154.

[2] Fox, G. H.: J. Cutan. Dis **3**: 97, 1885

[3] Duhring: Diseases of the Skin, ed. 2, 1876, p. 485.

[4] Freymann: Beitrag zur Kenntnis des Leukoderma Syphiliticum, Dermat. Wchnschr. **74**: 33, 1922.

[5] Goodman, Herman: The Collar of Venus: Melanoleukoderma Colli of Syphilis, J. A. M. A. **82**: 701 (March 1) 1924.

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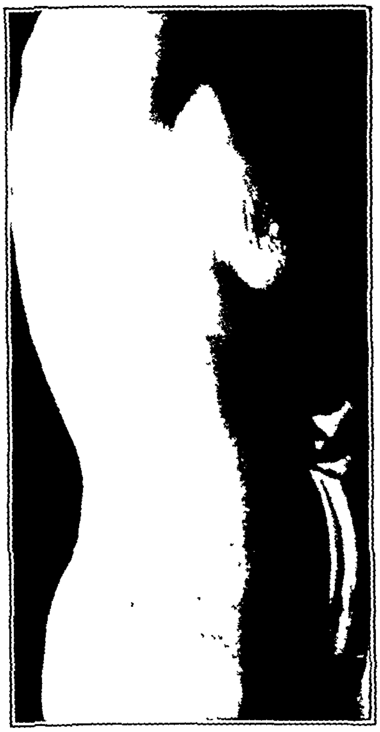

Fig. 2.—Leukoderma one year after development.

In April, 1925, the daughter of this patient appeared at the clinic with a macular syphilitic rash, mucous patches in the mouth, and other signs of secondary syphilis. Macules in this case were ringed with mercurochrome-220 soluble. At the end of one week many of the pink macules had become depigmented. This shows how rapidly the areas of leukoderma can develop. At the end of three weeks every macule surrounded by mercurochrome had become depigmented, the areas of vitiligo exactly corresponding to the erythematous macules of the roseola.

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REPORT OF CASES

Case 1.—A. M., a girl, aged 2, referred to the asthma clinic, Sept. 27, 1924, was a full-term baby and one of twins, breastfed and apparently well up to 1½ years of age, when she developed measles followed by bronchopneumonia. At this time, she also contracted an acute right cervical adenitis, which spontaneously subsided after several weeks. After this she developed a cough and wheeze which were almost constant and associated with attacks of dyspnea seemingly asthmatic in character. During the summer of 1924, the cough, wheeze and labored breathing were less severe. This partial relief was attributed by the mother to "sun baths." From the beginning of September, 1924, the symptoms became progressively worse and were without remission. Perspiration was moderate. Occasionally there was a slight fever. There was no history of tonsillectomy likely to be followed by pulmonary complications or aspiration of a foreign body.

The father has been confined to an insane asylum for the past three years. Otherwise, the family history was negative.

When seen at the clinic for the first time, the child appeared in great distress. She wheezed considerably, was markedly dyspneic, and at first appearance seemed to be suffering with a severe attack of asthma. The musical sounds emanating from the chest could be heard at some distance. She was well nourished. The tonsils were moderately enlarged, and the throat was congested. There was a peculiar expiratory dyspnea which is characteristic of this condition. The chest was emphysematous, with the breath sounds diminished at the left base. Numerous rhonchi and sibilant and sonorous râles were heard throughout both lungs. The heart sounds were not easily heard because of the loud wheezing. The lower border of the liver was felt 4 cm. below the costal margin.

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content of the blood was 9 mg. per hundred cubic centimeters. The urine was normal. The protein skin tests were negative.

Roentgenoscopy of the chest, Oct. 3, 1924, showed especially large right hilum shadows, with a marked emphysema of the entire left lung. The left side of the diaphragm was depressed, and the heart and mediastinum were pushed over to the opposite side. There was also an infiltration in the left lower lobe (fig. 1). The child was admitted to the hospital because she was suffering with an unusual degree of respiratory embarrassment, being practically in a "status asthmaticus." Nothing especial was done for the child except hospitalization. October 14, the roentgenogram showed a restored position of the mediastinum and the heart, with beginning resolution of the infiltration at the left lower lobe (fig. 2), and, October 25, the infiltration showed almost complete resolution with a diminution of the hilum shadows.

The child was discharged from the hospital much improved, a spontaneous resolution evidently having taken place to a large extent. It was suggested to the mother that the child be sent to a preventorium, so that proper treatment could be instituted. The mother, however, refused to accept our diagnosis of the child's condition and took her to another institution, where she was treated for asthma. Subsequently, the child was traced to a day nursery, which she had been attending for the past eight months. We were informed that the attending physician of the nursery considered the case "asthmatic bronchitis." However, Nov. 12, 1925, one of us (A. H. F.) visited the patient's home, and an examination of the chest failed to show any evidence of wheezing or dyspnea. The mother stated that the child wheezed only occasionally, and refused to submit her to further roentgenoscopic examination.

Case 2.—R. S., a boy, aged 4 months, an only child, full-term and breast-fed, referred to the clinic, April 28, 1925, with a diagnosis of asthma, had apparently been well up to 3 months of age, when he began to cough and wheeze. At this time, an eczema appeared on the face. There was no history of a preceding upper respiratory infection. The "asthmatic condition," while varying somewhat in degree since its onset, was nevertheless continuous. The infant perspired freely, but had no fever. In spite of the constant cough, wheeze and dyspnea, he seemed well nourished. The family history was negative. However, the mother gave a history of a cough lasting several months. The baby when first seen was extremely dyspneic, wheezed considerably and had the characteristic expiratory dyspnea together with numerous musical sounds in the chest, which were heard at some distance. There were many rhonchi, and sibilant and sonorous râles, but no areas of dulness in the lungs. The spleen was palpated 3 cm. below the costal margin. Dry eczematous patches were seen on the left cheek.

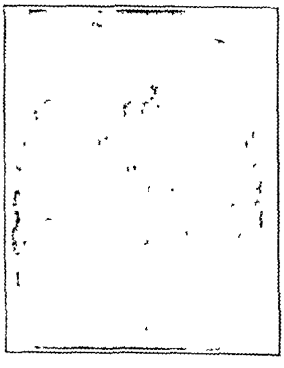
Fig. 1 (case 1).—Especially large right hilum shadows with marked emphysema of the entire left lung, Oct. 3, 1924. The left side of the diaphragm is depressed, and the heart and mediastinum pushed over to the opposite side. There is also an infiltration in the lower left lung.

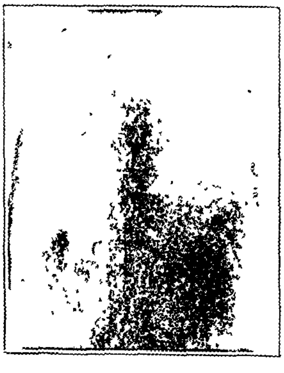
Fig. 2 (case 1).—Large right hilum shadows with a marked emphysema of the entire left lung, a restored position of the mediastinum and heart with beginning resolution of the infiltration at the lower left lobe, Oct. 4, 1924.

The Pirquet test was strongly positive, and the protein skin tests were negative. April 29, roentgenoscopy of the chest showed a marked enlargement of the bronchial glands at the roots of both lungs. The infant was not hospitalized. May 12, roentgenograms showed, in addition to the foregoing finding, an infiltration at the right base (fig. 3). May 21, there were large hilum shadows, a marked overdistention of the right lung with displacement of the right side of the diaphragm downward, and marked displacement of the heart to the left (fig. 4).

The administration of epinephrine hydrochloride (1:1,000) had no effect. The wheezing, cough and dyspnea were persistent. The parents would not consent to have the child sent away to the country, and when she was seen seven months later, her condition remained practically unchanged.

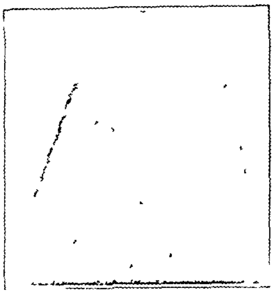
Fig. 3 (case 2).—Marked enlargement of the bronchial glands at the root of the right lung, with an infiltration at the right base, May 12, 1925.

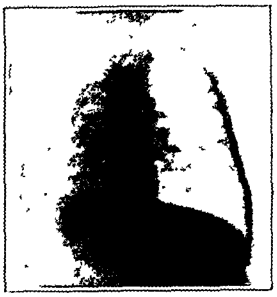
Fig. 4 (case 2).—Large hilum shadows, a marked overdistention of the right lung with displacement of the right side of the diaphragm downward and marked displacement of the heart to the left, May 21, 1925.

This case is similar to the previous one, except that the child was much younger, and roentgenograms showed the early stages of the disease.

Case 3.—J. G., a girl, aged 6 months, full-term and bottle fed, referred to the hospital, Jan. 7, 1926, was apparently well up to 4 months of age, when she commenced to cough and wheeze. These symptoms became progressively worse, and were constant from the onset. Perspiration was absent. Occasionally she had a slight fever. The mother has pulmonary tuberculosis and is living at home. This condition was first diagnosed in November, 1925.

When seen, the infant presented the characteristic expiratory dyspnea. The cough was high pitched. She was fairly well nourished. There were papular necrotic tuberculids on the back of the neck, chest and thighs, measuring from 1 to 3 mm in diameter. The tonsils were small. There were numerous musical râles in both lungs. The resonance was decreased and the breath sounds diminished over the entire right lung, with the exception of the upper lobe posteriorly, where the sounds were of tubular character, such as are heard in cases with bronchial stenosis. The heart was slightly displaced to the left. The lower border of the liver was felt 3 cm below the costal margin.

The Pirquet test was positive. The blood count was relatively normal. The urine was normal. Roentgenoscopy of the chest, Jan. 9, 1926, showed scattered infiltrations throughout the right upper and lower lobes. The bronchial lymph nodes at the right hilum were enlarged. There was a circular shadow, 2.5 cm. in diameter, in the right upper lobe, which had the appearance of a cavity. The heart was displaced to the left (fig. 5).

One month later the child was still in the hospital; her condition remained unchanged.

CHARACTERISTICS OF THE CONDITION

On the basis of these three cases and of reports in the literature, we find that this condition is confined largely to infants and young children. The usual history is that during the first year of life the child gradually begins to wheeze. These symptoms persist with no relief or remission. The mother is informed that the child has asthma but cannot understand why the baby does not improve. There may be a low grade fever, vomiting and perspiration, which may continue for one year or more.

The infant presents a pinched appearance. The alae nasi overact. Respiration is greatly embarrassed. The distress is greater than that seen in the average asthmatic child. An expiratory dyspnea suggestive of bronchial obstruction is characteristic.

There are numerous rhonchi, and loud sibilant and sonorous râles throughout both lungs like a human music box. These can be heard throughout the room. The breath sounds are usually diminished on one side, where there may be a hyperresonant note suggestive of unilateral emphysema. This finding is of diagnostic importance. There may be dulness at one of the bases. The spleen and liver are often enlarged. A rhythmic motion of the head occurring in extreme cases is mentioned by Bougarel, Schick and Finkelstein.

The subcutaneous injection of epinephrine hydrochloride (1:1,000) even in repeated doses does not offer relief. The Pirquet test is always positive and can readily be confirmed by the Mantoux test. A positive tuberculin reaction in an infant or child of from 1 to 2 years of age with a persistent wheeze is very significant. It immediately suggests enlarged tuberculous tracheobronchial glands. Roentgenoscopy of the chest will confirm the diagnosis.

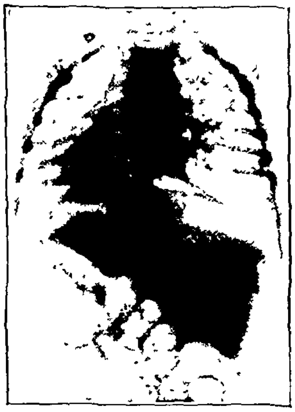
Fig. 5 (case 3).—Scattered infiltrations throughout the right upper and lower lobes, Jan. 9, 1926. The bronchial lymph nodes at the right hilum are enlarged. There is a circular shadow 2.5 cm. in diameter in the right upper lobe, which has the appearance of a cavity. The heart is displaced to the left.

The roentgenogram shows wide irregular shadows at the hilum, which are interpreted as masses of enlarged tracheobronchial glands. These hilum shadows are enormous for a child of 1 or 2 years. There may be a larger group of glands on one side than on the other, with a resultant unilateral emphysema and depression of the diaphragm of the same side due to pressure on a stem bronchus. The mediastinum and heart may be pushed over to the opposite side. Infiltrations at the base are common.

LITERATURE

In 1910, Schick[1] published a paper which for the first time placed this subject on a definite clinical basis. He noted that in 1904, Variot, Bruder and Guinon were the first to observe this expiratory type of dyspnea associated with enlarged bronchial glands; and that in 1907 Bougarel reported ten cases, most of which were collected from the literature. Schick maintained that in infancy and early childhood the occurrence of expiratory dyspnea and wheezing were diagnostically significant of tuberculous hilum glandular enlargement. The positive tuberculin skin reaction and roentgen-ray findings corroborated the diagnosis. Of his thirty-six cases presenting this clinical picture, the diagnosis in thirteen was confirmed by necropsy. In the great majority of his cases, symptoms appeared before 1 year of age.

Sluka[2] reported the roentgen-ray findings in Schick's cases. Besides hilum shadows, he observed that pulmonary infiltrations in the upper lobe occurred almost exclusively in infants.

Eckert[3] cited a case in a young child, with interesting necropsy findings. Rach[4] reported one case. Marfan[5] reported on a few infants who displayed an expiratory roaring sound or stridor due to compression of the trachea or bronchi by enlarged tuberculous mediastinal glands. Finkelstein[6] reported an extreme case in a 5-months baby. Cameron[7] stated that pressure on the trachea or bronchi from tuberculous mediastinal glands may closely simulate bronchial asthma, but cited no cases. Koch[8] quoted Schick's paper at length. Wallgren[9] recently reported three cases in which typical asthmatic attacks developed during a period when signs of bronchial compression were present.

It is surprising to note that the American literature, which is prolific on the subject of asthma, contains so few references to this condition. Abt,[10] in an article on asthma in children, cited no cases of this variety but stated that "enlarged bronchial glands may give rise to severe dyspnea which may simulate asthma." Sauer[11] discussed the diagnosis, while Stoll[12] emphasized the value of the roentgen-ray findings in this condition. Fishberg,[13] in discussing the roentgenogram, declared that "it is hazardous to diagnosticate tracheobronchial adenopathy because of these opacities, when the clinical picture is not in agreement." Pierson[14] discussed the interrelationship of asthma and glandular tuberculosis in older children, but cited no cases of infants or young children. Koessler[15] stated that in the past fifteen years he had seen twelve children with enlarged tracheobronchial glands presenting symptoms simulating asthma. Most of his cases occurred in children over 2 years of age, and only a few of them had tuberculous glands. Ratner[16] reported four cases of pulmonary tuberculosis in infants, in which the enlarged bronchial glands caused marked asthmatic breathing.

DIFFERENTIAL DIAGNOSIS

1. Tuberculous tracheobronchial lymph nodes sufficiently large to cause symptoms simulating asthma occur most frequently before the second year. During

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1. Schick, Béla: Exspiratorisches Keuchen als Symptomatologie im ersten Lebenjahre, Wien. klin. Wchnschr. **23**: 153 (Feb. 3) 1910.

2. Sluka, *Erich.*: *Ueber Röentgenbefunde bei tuberkulösen Kindern* mit expiratorischem Keuchen, Wien. klin. Wchnschr. **23**: 156 (Feb. 3) 1910.

3. Eckert, D.: Zur Frage der expiratorischen Dyspnoe bei Bronchialdrusentuberkulose der ersten Lebenjahre, Charite-Ann. **34**: 266, 1910.

4. Rach, E.: Inspirat [illegible] nums als Symptom intumeszierende [illegible] einem 2 jahrigen Kinde, Mitt. d. [illegible] in Wien **13**: 159 (June 4) 1914.

5. Marfan, P.: Tuberculose des ganglions bronchiques à forme compressive chez un enfant de huit mois coexistence avec de la craniomalacie et des déformations rachitiques, Rev. gén. de clin. et de thérap. **31**: 593 (Sept. 22) 1917.

6. Finkelstein, H.: Lehrbuch der Säuglingskrankheiten, ed. 3, Berlin, Julius Springer, 1924, p. 465

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the period of bronchial compression, wheezing is constant. The expiratory dyspnea is characteristic and is not relieved by subcutaneous injections of epinephrine hydrochloride (1:1,000). The positive tuberculin reaction along with the roentgenoscopic chest findings confirms the clinical diagnosis.

2. Bronchial asthma—protein sensitive and nonprotein sensitive—occurs most commonly in children, with the age of onset after 2 years. Before 2 years, the tuberculin skin reaction is usually negative. The asthmatic symptoms are never constant, and are always relieved by the administration of epinephrine hydrochloride. Roentgenoscopy of the chest fails to show the characteristic findings seen in cases of "expiratory dyspnea."

3. Asthma in older children in whom enlarged hilum shadows are found must show exceedingly large glands, which probably are not actively tuberculous, before it can induce symptoms.

4. Children with "thymic asthma" can often be recognized by their general appearance, by the presence of parasternal dulness and by the shadows seen in the roentgenogram.

5. The symptoms manifest during the first days of pneumonia may sometimes resemble this condition. Congenital stridor, laryngeal diphtheria and miliary tuberculosis can usually be differentiated.

6. Spasmophilia in children may be associated with attacks of asthma. These attacks, first described as bronchotetany by Lederer,[17] may occur as an independent manifestation or along with other symptoms of this constitutional disturbance, such as laryngismus stridulus, positive Chvostek sign, an increased electrical excitability, and a decrease in the calcium content of the blood.

7. A foreign body in a bronchus may closely resemble "expiratory dyspnea." However, the "asthmatoid wheeze" during expiration, with impaired resonance, diminution of breath sounds and the presence of many râles on one side of the chest while the other side is relatively normal, suggests the diagnosis of a foreign body in a stem bronchus. The roentgenogram may outline the foreign body. If it is in the trachea, a snapping sound is heard at the mouth during cough, and a thud or impulse striking against the subglottic narrowing may be felt over the trachea.[18]

COMMENT

The explanation offered by Schick [1] for the various symptoms associated with enlarged tuberculous glands was founded on an anatomic basis. From the necropsy findings in such cases, he deduced that the enlarged glands exerted pressure at the bifurcation of the trachea or on the main bronchus. There was usually more compression on one side than on the other. This contention was supported by Guinon,[19] Eckert,[3] Rach [4] and others. Jumon [20] causually mentioned Landouzy's theory, which held that the symptoms were due to circulatory poisons liberated by the tubercle bacilli. Pierson [14] stated the possibility of the split products of the tubercle bacilli inducing a state of anaphylaxis. Finally, Hoover [21] and Wallgren [9] attributed the symptoms to irritation of the vagus nerve.

It seems that the most plausible explanation for this condition is the mechanical obstruction theory advanced by Schick.

The prognosis is usually poor in such cases, unless the children can be put under extremely favorable conditions or confined to a preventorium. The fact that they are liable to infect other infants and children warrants their isolation. The importance of an early diagnosis is therefore obvious. Of the thirty-six cases reported by Schick, twenty-two children died in early childhood, and seven who were sent away to the country were doing well for over two years. Healing of the glands may take place under suitable hygenic environment. Mercury quartz lamp or roentgen-ray therapy may prove of value.

That enlarged tuberculous tracheobronchial glands inducing symptoms simulating asthma are more common in infants and young children than one is led to believe from the reports in the American literature seems evident. Probably some cases are not recognized as such and the patients are included among the general group of asthmatic children.

562 West End Avenue—1864 Seventh Avenue.

THE TREATMENT OF DEEP ROENTGEN-RAY BURNS BY EXCISION AND TISSUE SHIFTING *

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It would be rational to expect that, with the advances made in the knowledge of the proper dosage of roentgen rays, burns from this source would become less and less frequent. As a matter of fact, this does not seem to be the case, as in my own practice I am seeing these burns even more frequently than five years ago, when I [1] presented a paper on the radical treatment of roentgen-ray burns before the American Surgical Association. This report and the papers written since then by Porter and Wolbach,[2] Bevan,[3] E. G. Blair,[4] McArthur [5] and others have apparently had little effect on those who first see and treat the majority of these cases. For this reason, I am again bringing the subject forward, as I feel that it is of sufficient importance to warrant further discussion.

Most of the burns seen today are the result of the therapeutic use of roentgen rays in dermatologic and other clinical conditions. Some follow the prolonged use of the fluoroscope and others are due to overexposures by unskilled operators. To these may be added a group of burns which occur in spite of the most careful exposures administered by skilled roentgenologists.

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* *From the Surgical Department of the Johns Hopkins University and Hospital.*

* Read before the Southern Surgical Association, Louisville, Ky., Dec. 15, 1925.

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[3] Bevan, A. D.: X-Ray Burns, Surg. Clin. N. America **1**: 935 (Aug.) 1921.

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Fortunately, the methods of protection now known have practically eliminated the danger of chronic burns from the hands of the professional roentgenologist. However, we still see some of the frightful results of the lack of protection from roentgen rays, and this group of cases must also be included.

Most of the burns do not completely change the tissues, and with proper treatment take care of themselves; but now and then deeper tissues are involved and more disastrous consequences follow. All degrees of burns may be produced, from simple erythema up to the destruction of the whole thickness of the skin and varying depths of the underlying tissues. In this paper, I will consider only the deep burns.

CLINICAL PICTURE

It is well to bear in mind that in many instances the depth of the burn varies in different portions of the affected area. The entire area may be depressed somewhat below the normal skin, and is also often tightly adherent to the underlying tissue. The healed portion is hairless and atrophied, sometimes wrinkled, sometimes smooth, and is usually dry and shiny, with or without a blotchy, brownish pigmentation. In the majority of instances, there are characteristic telangiectases, which may be discrete or occur in patches. More or less extensive patches of keratosis are also frequently seen. There are usually one or more chronic ulcers found which may be comparatively superficial or may involve the full thickness of the skin, with a considerable depth of the underlying soft parts. The history of many of these ulcers is that they heal very slowly and then break down again, this process being repeated over and over. However, some of the deep ulcers never heal without operative intervention.

As a rule, there is an irregular shaped patch of tightly adherent yellowish white necrotic tissue occupying the central portion of the ulcer. The ulcer edges are thickened and hard, grayish red and often everted. In fact, the clinical appearance is frequently suggestive of malignancy. From the edges of the ulcer outward to the normal skin, we find more or less infiltration with scar. Occasionally, the entire area is covered with a sharply differentiated brown mummified tissue.

Exquisite sensitiveness is characteristic of the deep burns, regardless of their size. The intense burning, boring pain in the ulcerated area may be due to irritation of nerve endings caused by infection, which is always present; to changes in the nerves themselves caused directly by the rays or by the progressive obliteration of the blood vessels, or to pressure on the nerves by scar. Any one or all of these conditions may exist.

The outline of the involved area where it merges into the normal skin may be quite irregular, and both laterally and vertically is without definite limitation.

While the chief destruction of tissue is ordinarily in the corium and subcutaneous tissues, it is impossible to tell the depth of the destructive process until excision is done, and even then it is sometimes difficult. The tissues are of extreme hardness and will often turn the edge of a scalpel. The subcutaneous fat may be completely destroyed, but if present is deep yellow, and very firm and resistant, because of scar tissue involvement. In deep burns, the muscle may be entirely replaced by dense scar tissue, or there may be varying degrees of infiltration with scar. There may be marked necrosis of the underlying bone.

I will quote again the report sent me by Dr. J. C. Bloodgood, which is based on a microscopic study of the excised tissues from deep roentgen-ray burns: "The characteristic features in an x-ray burn as compared to a leg ulcer, or any other type of simple ulcer are: x-ray keratosis at the edge of the ulcer with atypical downgrowth of epithelium with or without pearly body formation; a very superficial zone of cellular granulation tissue; unusual scar tissue formation, which, as a rule, extends to the muscle; thickening of the walls of the blood vessels with endothelial obliteration, and minute abscess formation beneath the surface of the ulcer." The lymphatics are obliterated. The hair follicles are destroyed, as are also the sweat and sebaceous glands.

TREATMENT

When a patient with a deep ulcerated roentgen-ray burn applies for help, what is the best method of treatment? Should we continue local applications, with the addition of rays of various kinds, or should we resort to radical surgical measures? To my mind, the problem seems essentially surgical.

The burns that come to me are usually of long duration, and are those on which everything has been tried unsuccessfully. In the last two or three years, I have found that in almost every one of the severe cases ultraviolet rays have been used, and a cure has been promised each time. Sometimes radium has been used and often both ultraviolet rays and radium, in addition to a great variety of local applications. Occasionally, even more roentgen rays have been tried. I must confess that I cannot fathom the reasoning used for employing other rays to restore tissues that are already completely changed or destroyed by the original ray burn, even though these rays may be the complements of the rays causing the burn.

It is possible that ultraviolet rays and radium may be of value in the treatment of roentgen-ray burns in which the tissues have not been completely changed, but in the deep burns of long standing my experience has been that the condition is aggravated by these rays, and that time is wasted by this treatment.

As a matter of fact, I have not seen an instance among the cases referred to me in which any really deep burn caused by roentgen rays has been cured by radium or ultraviolet rays, and feel that there is little likelihood of a cure, unless perhaps the condition becomes so intensified by further radiation and additional burning that finally the entire area sloughs out, after which healing by granulation may follow. My point of view on this subject may be warped, as I usually see only the severe cases and the failures, but it is based on the results of a fairly wide experience with the patients who have been thus unsuccessfully treated elsewhere, and who as a last resort have been sent to me for a final trial of radical measures. Many of these patients, having suffered intensely over a long period of time, object when operative treatment is suggested, as they think it means increased pain with little prospect of improvement. This idea is fostered to a large extent by those who are uninformed and by the advocates of the various rays, who usually rather foolishly promise a cure and oppose radical treatment. It is an interesting fact that a considerable percentage of these patients have been physicians.

I am convinced that, when a deep burn has become definitely established and the ordinary local methods (even including ultraviolet rays, etc.) have been tried for a reasonable time without success, excision with tissue shifting is the method of choice—in fact, is the only method promising relief from the actual lesion as well as from the danger of subsequent malignant degeneration. I cannot speak too strongly on this subject, as I see each year a number of physical wrecks caused by the long continued improper treatment of these burns.

A case in point occurred in a colleague who was unfortunate enough to be severely burned several years ago by roentgen rays while being treated for pruritus ani. He was practically incapacitated, and suffered horribly and continuously. He tried every method suggested, ultraviolet rays, radium and nearly all kinds of local applications, without success. Finally, operative treatment was urged, and as he was bitterly opposed to such treatment, he was led to correspond with dermatologists, physiotherapists and others interested in the subject, both in this country and abroad. With the exception of a comparatively few men who advocated excision, they advised him to continue these palliative treatments and shun operation. Finally, having reached the end of his endurance, he asked for operative treatment, and within six weeks was out of the hospital, healed and free from pain. I could cite patient after patient whose story is comparable to this one.

METHOD

General anesthesia is usually necessary in these cases, as many of the patients are in a highly nervous, depleted condition and cannot stand additional pain and manipulation.

In the ideal case, the ulcer and the surrounding area of induration should be excised, out to and down to healthy tissue; in other words, with a good margin. In many instances, however, complete excision either outward or downward is impossible on account of the extent and situation of the burn, but in these cases the excision should be as radical as circumstances will permit.

Occasionally, I felt justified in grafting immediately, when the exposed tissues seem normal and the excision has been complete; but in the majority of instances following the excision of deep old burns, there is a general oozing which is almost impossible to check. It is obvious, therefore, that on such a wound immediate grafting would be futile. In these cases, I cover the wound with perforated cellosilk or with gauze impregnated with a 3 per cent bismuth tribromphenate (xeroform) ointment and then pack the depression snugly with sterile sea sponges, which are secured under pressure.

After forty-eight hours, the dressings may be removed without pain and without causing bleeding. In the course of a few days, following the continuous application of compresses saturated with physiologic sodium chloride solution, the granulations usually sprout and are soon ready for grafting. Gauze saturated with balsam of Peru, 1 part, and castor oil, 3 parts, is also useful for stimulating granulations. The type of graft used either for immediate grafting or after granulations have formed should depend on the location of the lesion. My own preference in the greater number of these cases requiring grafting is for "small deep grafts," and I find that they give very satisfactory results. I occasionally use Ollier-Thiersch grafts, but when large grafts are indicated I prefer those of whole thickness, especially in exposed situations. All of these delayed grafts are placed on the flat healthy undisturbed granulations. In a number of instances, I have used pedunculated flaps from neighboring tissues which have not been changed by the rays, or from a distant part, and have found them of great use when a pad of fat, in addition to whole thickness skin, was necessary. In fact, in exposed positions this is the most desirable procedure.

The flap may be shifted on to the fresh wound immediately after excision of the burned area, if conditions are favorable; but if the shifting is delayed, I find that the results are better if the granulating area is removed before the flap is sutured into its new bed. As the integrity of the circulation of the flap is particularly important in these cases, some method of delayed transfer is advisable.

When the burn is comparatively small and in a favorable position, it is often possible to excise it completely, using an elongated elliptic incision, and then to close the skin by sutures after undercutting.

Occasionally, we see an extensive thick scar of an old deeply burned area, which is fairly movable over the underlying tissues, but is unsightly and uncomfortable and breaks down frequently. In certain situations, it is advisable to treat such an area by gradual partial excision with closure, allowing the surrounding skin to stretch slowly, rather than to excise the entire area at one operation and fill the defect with grafts or a flap. By this method, the whole area can often be removed, and the final result is a comparatively inconspicuous scar.

Massage should be started on the grafts and flaps about three weeks after healing has taken place, and should be continued for several months.

COMMENT

The susceptibility of the skin of certain individuals to roentgen rays is a matter that must be considered, and as far as I know there is no method of telling who is hypersensitive and who is not. In a general way, this may be likened to the effect of the sun on different skins, as with the same exposure at the same time, one skin will be badly blistered and another only reddened or tanned.

I would emphasize that there is definite danger in the clinical use of all kinds of rays, and in my opinion, which is based largely on the observation of untoward results, these agencies should be used with the greatest caution and only by competent operators. Severe burns sometimes follow single exposures, but are more frequently caused by multiple exposures. My series of deep burns includes lesions in practically every region of the body. Their duration has been from a few weeks to many years. A peculiarity of roentgen-ray burns is that weeks, months or even years may elapse before the extent of the injury done becomes apparent.

The reason for this long period of latency is well explained by Matas,[6] who says that "the underlying pathology of these long delayed and necrogenic x-ray burns is a progressive proliferative endarteritis which obliterates the arterioles of the derm and subdermal connective tissue, leading to a gradual but fatal ischemia and nutritional disturbances in the radiated field."

Roentgen-ray burns often cause complete loss of function of a part. In more severe burns of the hands and feet, one is struck by the rigidity of the fingers and toes due to involvement of the tendons and overlying soft parts, and even of the joints and bones.

In those instances in which tendons have been destroyed and there is little injury to the bones, it is advisable to fill the defect with a pedunculated flap of skin and fat, and later to restore the tendon by the method best suited to the particular case.

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[6] Matas, Rudolph: Remarks on the Delayed or Remote Appearance of X-Ray Burns After Long Periods of Latency, Am. J. Roentgenol. **13**: 37 (Jan.) 1925.

The general loss of function is very marked, and a patient with even a comparatively small burn, wherever situated, is often almost completely incapacitated. This means, of course, lack of ability to earn a living, which to many is a very serious consideration.

The use of narcotices of one kind or another by many of these patients is necessary to control the severe pain that is usually present, and in a short time the morale is broken, and we have two problems on our hands instead of one.

When large areas are involved, we seldom excise sufficient tissue, and infection sometimes occurs in the nonresistant margins of these wounds. Occasionally, there is sloughing of the entire margin of the wound, although the excision had been apparently complete, and this reason alone would make it advisable to defer grafting, or the transference of a flap. Unless the operative intervention is radical, that is, unless the burned area is excised as widely and as deeply as necessary, this method of treatment is not completely effective, and subsequent secondary operations may be needed. In some instances, years may elapse before the secondary operations become necessary.

The excision of the burned area can be done either with a scalpel or with a cautery knife. I prefer to use the scalpel in the majority of cases, because the changed tissues can be recognized more readily; immediate skin grafting or flap shifting may be possible, and if this is not done the granulations cover the defect more promptly. When the cautery knife is used, hemorrhage is often lessened or checked, but immediate grafting is impossible on account of the searing of the tissues; also, the cauterized tissues must be thrown off before granulations are ready for grafting.

Fulminating infections sometimes occur in areas of skin that have been deeply burned by roentgen rays. Prompt excision with a generous margin is indicated, or even amputation of the part may be necessary to control the rapid spread of the infection. Amputation is also sometimes expedient in the extremities when there is no hope of saving the part by excision and tissue shifting or when malignant degeneration has taken place.

Periarterial sympathectomy might be useful in selected cases in the treatment of ulcerated deep roentgen-ray burns, especially in checking pain. I have had no experience with this method for this purpose, but feel that more direct local measures are preferable.

It has been said that the pain of areas burned by roentgen rays is due to infection and that this infection with the pain can be eliminated by two or three exposures to ultraviolet rays. This, unfortunately, as far as pain is concerned, has not been the result in any of the patients that have come to me after such treatment, as the pain has persisted and in some instances has been aggravated. Sometimes, when there has been a deep burn in which healing has finally taken place after many months, the scar may also be very painful. As there is no question of infection in these cases, the pain is probably due to nerve changes caused by the obliterative processes in the blood vessels of the corium and subcutaneous tissues, by the direct action of the rays on the nerves, or to pressure by scar tissue, or to all these conditions. In these cases, systematic massage should first be used, if no areas suggesting malignancy are present; if this is ineffective, then excision with the shifting in of a flap or grafting should be considered.

In the majority of instances, we can promise that with the excision of the burned area, the characteristic pain will usually cease permanently. If nothing else was accomplished, this alone would make it well worth while. Division of nerves leading to the area will also relieve the pain.

The tendency to malignant degeneration in chronic roentgen-ray burns is interesting and important. Porter,[7] who has had a very wide experience with such burns, finds that cancer rarely develops in lesions resulting from a single massive dose or a few exposures at short intervals; it occurs more frequently in burns in which there have been many exposures over a long period of time, as in the treatment of psoriasis, eczema, lupus and malignant diseases, and most frequently in those cases in which varying degrees of chronic roentgen-ray dermatitis had been present for many years, as typified by the lesions on the hands of the pioneer roentgenologists.

My experience practically coincides with Dr. Porter's. In a general way, I have found that when there has been destruction of the whole thickness of the skin and often of the underlying tissues with slough *en masse* and deep ulceration, there is no more likelihood of malignant degeneration than in any other very chronic ulcer. On the other hand, ulceration of a patch of keratosis or the breaking down of areas of chronic dermatitis should be viewed with suspicion.

When malignancy is shown by frozen section of the excised ulcer, removal of the lymph glands into which the part drains is indicated, and in certain instances even more radical measures may be necessary. In order to avoid possible malignant degeneration of patches of keratosis, it is advisable to destroy these areas as soon as possible after their appearance. My own preference is for excision with closure or with grafting; but the method used in these early cases is immaterial so long as the keratosis is removed, and a lasting healing results.

Quite frequently we have a deep burn following the treatment of a superficial malignant growth without the growth itself having been completely destroyed. In these cases, excision of the entire area with the cautery is advisable.

Excision with tissue shifting is also the procedure of choice in chronic deep radium burns, of which I have had a considerable number, and ultraviolet ray burns, and promises a quicker and better result than any other method.

CONCLUSIONS

When a deep roentgen-ray burn occurs and the ordinary local methods have been tried for a reasonable time, nothing is gained by delaying operative work.[8] In none of the cases referred to me has treatment with ultraviolet rays and other rays been beneficial. Early excision of deep burns with tissue shifting promises more surely than any other method yet devised a reasonable prospect of permanent relief in a comparatively short time.

Pain is eliminated and, in many instances, function is restored, and patients who have been incapacitated for years have been returned to their former activities. The ultimate results have been most gratifying.

Mount Vernon Place and Cathedral Street.

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[7] Porter, C A · The Surgical Treatment of Roentgen Ray Lesions, Am J Roentgenol **13**: 31 (Jan) 1925

[8] In fact, delay in the radical treatment is dangerous, as malignant degeneration is not uncommon in certain types of these burns.

Clinical Notes, Suggestions, and New Instruments

MENINGOCOCCUS MENINGITIS WITH RECOVERY IN A SEVEN WEEKS OLD INFANT *

JAMES M. STURTEVANT, M.D., NEW YORK

Meningococcus meningitis is an extremely rare disease in early infancy. Root,[1] in a careful review of the literature up to 1921, found only six cases of meningococcus meningitis occurring in infants under 2 months of age; two of these infants died during the acute stage of the disease, three died a few months later from sequelae, and the remaining case could not be traced. A seventh case is reported by Cook and Bell[2] in a child, aged 17 days, with a fulminating infection of parameningococcus and an extensive petechial rash.

In view of these facts, recovery without sequelae in an infant, aged 7 weeks, following specific serum therapy administered into the cisterna magna, seems of sufficient interest to merit publication.

REPORT OF CASE

D. H., a white girl, born, Jan. 31, 1925, was admitted to the Babies' Hospital, March 23, at the age of 7 weeks. The chief complaint was convulsions and vomiting of three hours' duration, following the sudden onset of fever (105 F.) first noticed twenty-four hours before. Prior to this time the baby was said to have been entirely well. The family history was unimportant. The patient was the result of the only pregnancy, full term, normal labor, birth weight, 7 pounds 9 ounces (3.5 Kg.). Owing to failure of the mother's milk, the baby had been breast fed only one week. Since that time she had been fed on modified milk formulas.

When first examined on admission it was observed that the anterior fontanel was of normal size and not bulging. The extremities were slightly spastic. There was slight internal strabismus. The patellar reflexes were active. These symptoms of irritation promptly subsided. The head measured 14¼ inches (36 cm.); chest, 13 inches (32.5 cm.); abdomen, 11½ inches (29 cm.); length, 21 inches (53 cm.). The infant was fairly well nourished. When disturbed, she had a strong, vigorous cry. There were no symptoms indicating a severe infectious process. Her attitude and movements appeared normal. The eyes moved normally. There was no internal strabismus and no nystagmus. The pupils were pinhead in size and reacted slowly to light. The ears, nose, mouth and pharynx were normal. The neck was not rigid. The head could be flexed on the chest and laterally with no apparent signs of tenderness. The thorax was symmetrical. The lungs were clear and the heart sounds were normal. The spleen was palpable at the costal border. The liver was palpable one-half inch below the costal border. The abdomen was not tender. There was no weakness, paralysis or rigidity of the extremities. The tendon reflexes were definitely increased. Urinalysis showed the presence of a few leukocytes but neither albumin nor casts. Because of the history of convulsions and vomiting and the rather indefinite physical findings, lumbar puncture seemed indicated. Only 1 cc. of thick pus was obtained, which on direct smear showed 99 per cent polymorphonuclear leukocytes with occasional gram-negative biscuit shaped diplococci both within and without the cells. Further attempts at obtaining fluid by lumbar puncture were unsuccessful. On being tapped, the cisterna magna yielded 35 cc. of turbid fluid under pressure. This fluid contained 4,600 cells per cubic millimeter, 99 per cent of which were polymorphonuclears. The globulin was 4 plus. There was no sugar reduction obtained with Benedict's test. The quantitative test for sugar showed 32 mg. per hundred cubic centimeters of cerebrospinal fluid. The chlorides were 663 mg. per hundred cubic centimeters. Cultures of the fluid from the cisterna magna grew meningococci.

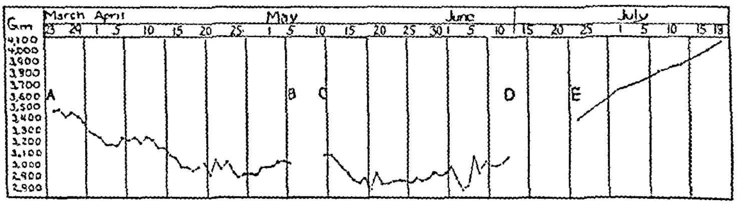

Chart 1.—Changes in weight: *A*, on admission; *B*, discharge; *C*, readmission; *D*, discharge; *E*, admission to outpatient department. July 18, the patient's weight was 4,150 Gm., or approximately 9 pounds; four months later, November 20, it was 15 pounds 4 ounces (7 Kg.); this represents a net gain of 6 pounds 4 ounces (2.8 Kg.) in the first four months following her discharge from the hospital.

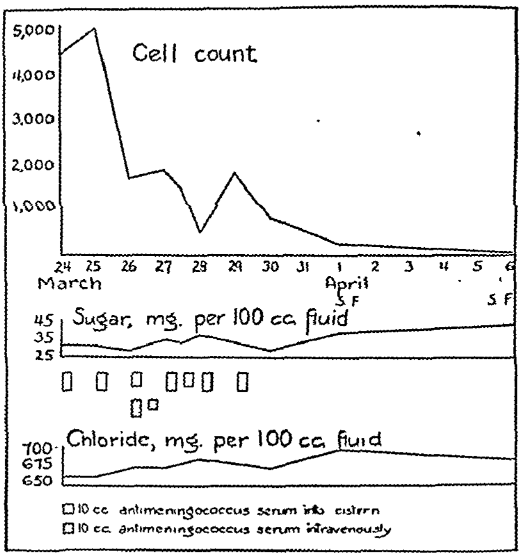

Chart 2.—Cell count and chemical findings.

Immediately 20 cc. of New York State Department of Health antimeningococcus serum was injected into the cisterna magna and 20 cc. was given intravenously. The following day this procedure was repeated, after which no further serum was given intravenously. Five more injections were made into the cisterna magna, 20 cc. being injected each time over a period of five days. The blood culture, which was not taken until after the initial dose of serum had been given, was sterile. From the onset of treatment the condition of the patient improved slowly and steadily. Fourteen days after the first lumbar puncture, when only a few drops of pus were obtained and complete blocking of the spinal canal was evident, the spinal fluid had become clear and only 40 cells per cubic millimeter were present. The spinal fluid sugar had increased during these fourteen days from 28 mg. to 43 mg., with a proportionate rise in the chloride content from 675 mg. to 688 mg. per hundred cubic centimeters. There was a complicating otitis media, which also gradually improved. Cultures from the ear discharge showed no meningococci. The temperature gradually subsided. The white blood cell count had dropped from 23,950 to 15,900. The patient slowly but steadily improved. She was discharged in excellent condition, forty-two days after admission.

Six days following her discharge from the hospital, she was readmitted with a severe attack of bronchopneumonia. This was accompanied by the following signs of meningeal irritation: opisthotonos, rigidity and tenderness of the neck, positive Brudszinsky's sign, and active knee jerks. Lumbar puncture was again done and the spinal fluid was found to be normal. The count showed 8 cells per cubic millimeter and a sugar content of 55 mg. per hundred cubic centimeters.

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* From the Babies' Hospital, Department of Diseases of Children, Columbia University.

[1] Root, J. H.: Am. J. Dis. Child. **21**: 500 (May) 1921.

[2] Bell, H. H., and Cooke, J. V.: Am. J. Dis. Child. **24**: 387 (Nov.) 1922.

The pneumococcus infection followed the meningococcus infection so closely that the matter of nutrition became a very serious one, but with careful feeding she was again discharged cured, thirty-one days after the second admission. From that time to the present date she has been seen weekly in the outpatient department. There has been a slow but steady gain in weight, and no apparent sequelae are demonstrable. The accompanying charts show the marked loss of weight at the onset of each acute infection followed by a low maintenance throughout each infection and a very gradual but constant increase in weight since recovery. Chart 2 shows the cytology and chemical analysis of the fluid.

SUMMARY

The chief points of interest in this case of proved meningococcus are:

1. The age of the infant.
2. The mild meningeal symptoms.
3. Complete blocking of the spinal canal, necessitating the administration of seven injections of serum into the cisterna magna.
4. Ability to survive a second acute infection (pneumococcus) within sixty days following the onset of the primary disease.
5. Complete recovery from both infections without complications or sequelae.
6. Present condition and progress normal, nine months after onset of infection.

300 West End Avenue.

TRANSILLUMINATION OF THE CERVIX OF THE UTERUS

Leonard R. Thompson, M.D., San Pedro, Calif.

This procedure is offered primarily as a means of diagnosing the condition of the glands of the cervix.

The cervix may be transilluminated by a light applied to the vaginal surface, or by a small light introduced within the cervical canal. A hooded light must be used when applied to the outer surface of the cervix, so that all the rays are directed into the cervical tissue. A Carroll antrum transilluminator, which has the light at right angles to a straight handle, serves well for this purpose. The position of the light and its intensity must be varied until just the proper illumination is secured. A light from a urethroscope may be used for the inside of the cervix.

The first cervix I examined this way had a definite cyst visible to ordinary examination. Transillumination revealed the cyst as an area more translucent than the rest of the cervix, and clearly defined by the light. Incision of the cyst liberated clear mucus.

A normal cervix does not show, when transilluminated, any areas more translucent than the rest. When the glands are moderately dilated, they may be seen as elongated structures arranged radially around the cervical canal, and extending well into the cervical tissue.

That a cystic condition of the glands very often is not revealed by ordinary examination is demonstrated by the following cases:

A patient, complaining of sterility, showed on examination a milky cervical discharge, and a reddened area on the posterior lip. There was no swelling to suggest a cyst. Transillumination revealed a cystic gland, which very closely corresponded in size and position to the reddened area.

Another patient complained of sterility and moderate vaginal discharge. The cervix was moderately enlarged but had no cystic swellings or reddening. Transillumination showed well marked dilatation of the glands.

In another instance a cervical repair was done in an attempt to cure a cervical discharge. The laceration was repaired, but the discharge continued. Transillumination showed numerous cystic glands, which could have been removed at the time of operation if their presence had been known. The scar tissue at the operation site was more luminous than normal cervical tissue.

Transillumination will be found very valuable in determining the source of a discharge from the cervix. It will demonstrate endocervicitis in some cases in which sterility is the complaint. It will make it possible to determine with greater precision the patients needing an operation of the Sturmdorf type.

Transillumination is such a simple procedure that it should be done as a part of the routine of a pelvic examination.

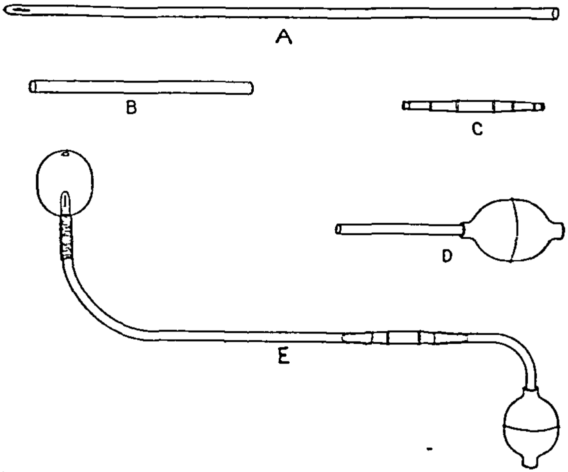
A PROSTATIC BAG

Tom R. Barry, M.D., Knoxville, Tenn.

Various devices to control bleeding after prostatectomy have been described. Many of these are bulky, very painful to remove and are not always available. The chief objections to the use of the Hagner and Pilcher bags are, (1) the necessity of withdrawing the end through the urethra and bladder and out the suprapubic wound, which is extremely painful, difficult and not always aseptic; and (2) the necessity of removing and again replacing the suprapubic drain.

I have used the following simple modification of the Hagner bag with entirely satisfactory results:

The bag consists of a soft rubber catheter 22 F., and a three-eighth inch cigaret drainage tubing, 7 inches long. The tubing is telescoped, making a double thickness 3½ inches long. One end is tied off with silk, and the double is then inverted so that the end will be inside the bag when it is inflated.



Simple modification of Hagner prostatic bag. *A*, catheter; *B*, cigaret drainage tubing; *C*, graduated glass connection tube; *D*, inflating bulb; *E*, apparatus assembled.

The catheter is introduced into the open end of the tube, a free portion 1¾ inches protruding beyond the catheter end. The tubing is secured to the catheter by wrapping with no. 4 silk, beginning at the eye of the catheter and extending forward the entire length of the overlapped drainage tubing (about 1¼ inches), using enough tension to compress the catheter slightly and thereby making an almost even surface. If desired, the ends may be vulcanized instead of wrapped with silk.

This bag will stand an almost unlimited amount of tension and distention and is removed through the urethra without the slightest difficulty and with no more pain than is experienced in the withdrawing of an ordinary catheter. Either air or water dilation may be used.

COMMENT

This device has four distinct advantages over the Hagner bag:

1. It is inexpensive and always available.
2. It is easily removed.
3. When the air is out, it may be left in place several days without causing discomfort.
4. Being soft, it more nearly conforms to the prostatic bed than the older types.

Special Article

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BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 1349)

DOSAGE OF DRUGS

Personal Peculiarities.—In order to be successful in the practice of medicine, it must be remembered that we are not treating a disease but a patient, and that it is essential to consult the peculiar tendencies of the man or woman who is the patient. For this purpose, what is popularly known as "a knowledge of the constitution" is necessary. This is a knowledge that can be gained only by experience, and for the acquisition of which obviously but little help can be given by generalizations. Still, some of the factors may be pointed out that go to make up "the constitution."

It is the knowledge of hereditary tendencies that makes the advice of the old family physician sometimes so valuable. The habits of life are of importance. Hard physical work and habitual exposure to weather render the system less sensitive; refinement, luxury and indolence, more sensitive to disturbing agencies. Thus, a laboring man may have to receive twice the dose that would be sufficient for a professional man.

Habituation to drugs is another factor that must be reckoned with. The human system has a remarkable power of acquiring tolerance to the influence of certain drugs, so that progressively larger doses have to be given to obtain the same effect. This renders an alcoholic patient peculiarly insusceptible to the influence of alcohol and of closely allied agencies, such as ether or chloral; an opium habitué may require several times the dose of opiate that would be fatal to an ordinary person. This also explains the reason why a drug that acts well at first often loses its effect after a while; and why in the treatment of chronic diseases it often becomes necessary to substitute one remedy for another of the same class, in order to obtain renewed benefit; such remedies that are interchangeable are termed "succedanea." An extensive range of succedanea in the possession of the physician greatly increases his power to do good. The practitioner who knows one dozen drugs well is not so good a physician as one who knows three or four dozen drugs well. Preaching parsimony in the teaching of materia medica is just now popular. While it is better to know all about a dozen drugs than a little about a hundred, let us, in the interest of efficiency, equip ourselves thoroughly with a liberal armamentarium in the fight against disease.

Temperaments, or the peculiarities of classes of individuals, have to be taken into account. Persons of the nervous temperament generally require smaller doses than the phlegmatic. Idiosyncrasies, the peculiarities of individuals, cannot be known except as the result of experience. Idiosyncrasy, which shows itself as an exceptional indifference, an exceptional susceptibility, or an exceptional mode of reaction, occurs in relation not only to drugs but also to foods. It is expressed in the old saying: "One man's meat is another man's poison." It must be admitted, however, that calling such exceptional reactions idiosyncrasy is merely substituting a well sounding word for our ignorance, using a cloak for our inability to explain matters. A well defined idiosyncrasy should challenge us to endeavors to determine the cause. Thus, marked intolerance to drugs in general should furnish a strong hint to investigate the condition of the kidney; it may be due to cumulative action; i. e., greater absorption than excretion. An exceptional mode of reaction may be due to greater prominence in the individual, as the vagotonic or the sympatheticotonic, of certain well defined side actions of drugs (untoward effects), which in others would occur only as a result of excessively large doses.

Temporary Conditions.—These likewise are important. The time of administration modifies the action of drugs. A full stomach delays general and lessens local action. A smaller dose of an agent will produce an action when it is given so that its effect coincides with the natural time of that action than when it is given out of season. Hypnotics are most effective in the evening; purgatives should be administered so as to act at the accustomed time of evacuation. During menstruation, certain remedies have a special action. Purgatives tend to increase the flow. At this time it is wise to use all very active drugs with special care, or abandon them temporarily. During pregnancy, powerful purgatives may cause abortion. During pregnancy as well as during lactation, we must always bear in mind the action which the drug may have on the child, for many drugs pass from mother to child. It is probable that emotions influence the activity of drugs, favoring or hindering their action; and the physician who fails to avail himself in disease of "expectant attention," who does not explain to the patient the effect he intends the remedy to have, drops an important article from his list of remedial agents.

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Lactose .... 0.50 Gm.
M. and divide into 5 caps.
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Physician's name and address[50] and registration number[50] under the Harrison Act.

It may be well to write, in addition, at the bottom of the prescription: "The above is just as intended." All this should be done to avoid delay, as a careful pharmacist may hesitate to put up such a prescription without consulting the physician about it. Such hesitation is entirely justified, for the pharmacist may be held criminally liable with the physician if he compounds and dispenses a medicine containing a fatal dose of poison.

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In determining the number of days the medicine is to last, one should rather err in prescribing too small than too large a quantity. It is better to have the prescription refilled over and over again than to risk having half a bottle set aside unused. Patients will rarely complain of the cost of medicines that are consumed; but they will observe the waste and criticize, when repeatedly forced to set aside half-used remedies to buy others. Hence it is a wise general rule to order only sufficient medicine to last from one visit to the next. This applies especially to acute cases, in which the condition of the patient may change from day to day, or even from hour to hour. When, however, a prolonged course of a certain remedy is needed, it may save expense and trouble if a larger quantity is ordered at a time.

Multiplying the number of doses for one day by the number of days the medicine is to last will give the total number of doses. This figure should now be modified and rounded out, if necessary, to conform to the system of weights used: the multiples or convenient subdivisions of 10 for the metric system. This facilitates the further calculations. Thus, if a dose of medicine is given every two hours, the total daily dose may be calculated as ten times the amount of the single dose.

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Infusions are simply teas, made by pouring boiling water on the coarsely comminuted drug, covering the vessel tight, allowing it to stand for half an hour, and then straining the fluid with pressure. The formula for infusions, contained in the Pharmacopeia, directs them to be made 5 per cent strength unless otherwise directed by the physician. The only remaining representative in the Pharmacopeia of this once large class of preparations is the infusion of digitalis (1.5 per cent strength), which is by some physicians believed to be more diuretic than other extractive preparations of this drug. Its average dose is stated by the Pharmacopeia at 6 cc.; but it is often given, at first, in tablespoonful (15 cc.) doses every four hours: and it is probably this liberality in the dosage of the infusion, as compared with insufficient dosage of the tincture habitually employed by many, that accounts for superior results. The National Formulary still harbors several infusions, the most important of which is the compound infusion of senna, a relic of the barbarous past when such horribly tasting teas had to be consumed by the teacupful. (The N. F. average dose is 120 cc.) This preparation is sometimes useful, however, as a purgative in constipation resisting milder means, for it is a rational synergistic combination of senna (6 per cent) which excites

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Decoctions are made by boiling the coarsely ground or cut drug (5 per cent) with water for fifteen minutes, allowing it to cool, and then straining. Boiling the drug is more powerful as an extraction process than infusion; but it tends to dissipate some of the volatile materials of the drug and may injure some of the more delicate organic principles. Hence decoction should be employed in the extraction of only those drugs that are not injured by heat.

The worst disadvantage of infusions and decoctions is their poor keeping quality. Even the official infusion of digitalis, which contains 10 per cent of alcohol and 15 per cent of cinnamon water as preservatives, does not keep for more than a few days in hot weather. It should therefore be recently prepared in fairly small quantities, and kept in the icebox until consumed.

An important step in advance was made when wine and vinegar came to be employed for the extraction of drugs. These are for many active principles of drugs much better solvents than is water, and they also have a preservative action. Now there is but one vinegar in the U. S. P., the vinegar of squill; and wines have been deleted completely. The distillation of alcohol and the superiority as menstruums of mixtures of alcohol and water in definite proportions to the older solvents is chiefly responsible for this.

Tinctures and fluidextracts are now the predominant liquid extractive preparations. The tinctures, representing at an average 10 per cent of drug, are the most important liquid preparations of toxic drugs; while the fluidextracts, representing 100 per cent of drug (1 cc. = 1 Gm.) are generally the most important liquid preparations of nontoxic drugs. In case of the latter, concentration has the advantage of small bulk of dose, and in some cases giving the active principles of the drug the opportunity of developing their action without being complicated or even overshadowed by the effect of alcohol. It is uneconomical, on the other hand, to go to a good deal of trouble to produce as concentrated a preparation as a fluidextract of a drug the dose of which will be only a few drops, and which will be diluted again before taking. The chief reason why fluidextracts of some highly poisonous drugs are still official is that veterinarians are making good use of them. When either a tincture or a fluidextract is to be diluted in a prescription, the best diluent is a mixture of alcohol and of water in as nearly as possible the same proportion as that of water and alcohol in the menstruum, because an alcoholic extractive preparation is more or less incompatible with alcohol as well as with water in accordance with the degree to which they deviate from the proportions present in the menstruum.

(To be continued)

Voluntary Health Agencies.—The relation of the municipal service to the existing voluntary health agencies is an important one. Much of the work carried on in many communities will continue to be given by the voluntary agencies for the present. There should, however, be permitted no real division of responsibility, and the general supervision of all the service that is rendered to the community should be centralized under the direction of the health officer in order to guarantee a well balanced program.—Cumming, Hugh: *Pub. Health Rep.* **41**:380 (Feb. 26) 1926.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

PITUITARY BODY ANTERIOR LOBE, DESICCATED-MULFORD.—The anterior lobe of the pituitary body of cattle, separated, dried and powdered without the addition of preservative or diluent.

Actions and Uses.—See Pituitary Gland, New and Nonofficial Remedies, 1925, p. 260.

Dosage.—From 0.06 to 0.6 Gm. (1 to 10 grains).

Manufactured by the H. K. Mulford Company, Philadelphia. No U. S. patent or trademark.

Tablets Pituitary Body Anterior Lobe, Desiccated-Mulford, 2½ grains.
Tablets Pituitary Body Anterior Lobe, Desiccated-Mulford, 5 grains.

Pituitary body anterior lobe desiccated-Mulford is a light grayish-yellow powder with a slight, peculiar odor. It is partly soluble in water. One part represents approximately 5 parts of the fresh substance.

STERILE SOLUTION OF ANTERIOR LOBE PITUITARY EXTRACT-MULFORD.—An extract of the anterior lobe of the pituitary body of cattle, preserved by the addition of 0.5 per cent of phenol.

Actions and Uses.—See Pituitary Gland, New and Nonofficial Remedies, 1925, p. 260.

Dosage.—Usually 1 cc. (15 minims).

Manufactured by the H. K. Mulford Company, Philadelphia. No U. S. patent or trademark.

Ampules Sterile Solution of Anterior Lobe Pituitary Extract-Mulford, 1 cc.

Sterile solution of anterior lobe pituitary extract-Mulford is prepared by macerating the anterior lobes of the pituitary of cattle with acidulated water. This is strained, filtered through porcelain, and preserved by the addition of 0.5 per cent of phenol.

Each cubic centimeter represents the extractive of 0.2 Gm. of fresh substance.

PITUITARY SOLUTION SURGICAL-WILSON.—An extract of the posterior lobe of the pituitary body of cattle, preserved by the addition of chlorbutanol, each cubic centimeter containing 0.005 Gm. It is standardized by the method of the U. S. Pharmacopeia to have twice the strength of Solution of Pituitary, U. S. P.

Actions, Uses and Dosage.—See Pituitary Gland, New and Nonofficial Remedies, 1925, p. 260.

Manufactured by The Wilson Laboratories, Chicago. No U. S. patent or trademark.

Ampoules Pituitary Solution Surgical-Wilson, 1 cc.

SCARLET FEVER STREPTOCOCCUS ANTITOXIN (See THE JOURNAL, May 2, 1925, p. 1338).
H. K. Mulford Company, Philadelphia.

Scarlet Fever Streptococcus Antitoxin Concentrated.—It is prepared by the method of Drs. Dick under U. S. patent 1,547,369 (July 28, 1925; expires 1942) by license of the Scarlet Fever Committee, Inc. The serum is concentrated by the method employed in concentrating diphtheria antitoxin. Each cubic centimeter neutralizes at least 15,000 skin test doses of scarlet fever toxin. Marketed in packages of one syringe containing 7 cc. (prophylactic dose) and in packages of one syringe containing 14 cc. (therapeutic dose).

CORPORA LUTEA SOLUBLE EXTRACT-P. D. & CO.—A solution of an extract of desiccated corpus luteum in physiological solution of sodium chloride, each cubic centimeter containing 0.02 Gm. of soluble extract, preserved by the addition of 0.5 per cent of chlorbutanol.

Actions and Uses.—See Ovary, New and Nonofficial Remedies, 1925, p. 251.

Dosage.—One cubic centimeter at intervals of one to four days.

Manufactured by Parke, Davis & Co., Detroit. No U. S. patent or trademark.

Ampules Corpora Lutea Soluble Extract-P. D. & Co., 1 cc.

Corpora lutea soluble extract-P. D. & Co. is made by extracting desiccated corpus luteum with water slightly acidulated with acetic acid, containing 0.5 per cent of chlorbutanol. The extract is filtered, concentrated in a vacuum at low temperature and precipitated by a solvent miscible with the solution, such as alcohol or acetone. The precipitate is collected, dried at a low temperature and dissolved in physiological solution of sodium chloride so that each cubic centimeter contains 0.02 Gm.

PROCEEDINGS OF THE DALLAS SESSION

MINUTES OF THE SEVENTY-SEVENTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT DALLAS, TEXAS, APRIL 19-23, 1926

(Concluded from page 1367)

MINUTES OF THE SECTIONS

SECTION ON PRACTICE OF MEDICINE

Wednesday, April 21—Afternoon

The meeting was called to order at 2 o'clock by the chairman, Dr. Eugene S. Kilgore, San Francisco.

Dr. M. L. Graves, Houston, Texas, read a paper on "Diagnostic Criteria in Malignant Disease of the Upper Right Quadrant." Discussed by Dr. Julius Friedenwald, Baltimore.

Dr. Charles N. Meader, Denver, read a paper on "Nontuberculous Peribronchitis Simulating Occult Tuberculosis."

Dr. Meyer A. Rabinowitz, Brooklyn, read a paper on "Rheumatic Pneumonia."

Dr. John A. Lichty, Clifton Springs, N. Y., read a paper on "Cancer of the Lungs with Especial Reference to Increased Incidence Following Recent Influenza Epidemic."

These three papers were discussed by Drs. Paul H. Ringer, Asheville, N. C.; L. J. Moorman, Oklahoma City; John M. Blackford, Seattle; Felix Baum, Denver; E. C. Thrash, Atlanta; Moses Barron, Minneapolis; H. A. Christian, Boston; I. D. Bronfin, Sanatorium, Colo.; Charles N. Meader, Denver; Meyer A. Rabinowitz, Brooklyn, and John A. Lichty, Clifton Springs, N. Y.

Dr. P. S. Hench, Rochester, Minn., read a paper on "Modern Practical Tests of Renal Function." Discussed by Drs. C. W. Dowden, West Baden, Ind.; L. P. Gay, St. Louis, and P. S. Hench, Rochester, Minn.

Dr. Russell L. Cecil, New York, read a paper on "Classification and Treatment of Chronic Arthritis."

Drs. A. G. Young and J. B. Youmans, Ann Arbor, Mich., presented a paper on "The Use of *o*-Iodoxybenzoic Acid in the Treatment of Chronic Arthritis."

These two papers were discussed by Drs. E. E. Irons, Chicago; J. B. Youmans, Ann Arbor, Mich.; Ralph Pemberton, Philadelphia; P. S. Hench Rochester, Minn., and A. G. Young, Ann Arbor, Mich.

Drs. H. A. Christian, Boston, and James S. McLester, Birmingham, Ala., were appointed to serve on the Executive Committee.

Thursday, April 22—Afternoon

The meeting was called to order at 2 o'clock by the chairman.

Dr. Eugene S. Kilgore, San Francisco, read the chairman's address, entitled "Precordial Pain."

Dr. W. L. Bierring, Des Moines, Iowa, read a paper on "Chronic Endocarditis."

Dr. John H. Musser, New Orleans, read a paper on "Chronic Pericarditis: A Discussion of the Clinical and Experimental Aspects."

Dr. Roger S. Morris, Cincinnati, read a paper on "The Clinical Recognition of Pulsus Alternans."

These four papers were discussed by Drs. Willard J. Stone, Pasadena, Calif.; Joseph L. Miller, Chicago; James McLester, Birmingham, Ala.; Meyer Rabinowitz, Brooklyn; Lewellys F. Barker, Baltimore; W. L. Bierring, Des Moines, Iowa, and John H. Musser, New Orleans.

Dr. John Walker Moore, Louisville, read a paper on "Measurements of Cardiac Overload."

Dr. Joseph H. Pratt, Boston, read a paper on "Cardiac Asthma."

Dr. Charles F. Hoover, Cleveland, read a paper on "Bedside Study of Air Hunger."

These three papers were discussed by Drs. G. Canby Robinson, Nashville, Tenn.; J. B. Guthrie, New Orleans; M. D. Levy, Houston, Texas; George Piness, Los Angeles; Joseph H. Pratt, Boston, and Charles F. Hoover, Cleveland.

Dr. Lewellys F. Barker, Baltimore, read a paper on "The Etiology and Treatment of Pernicious Anemia." Discussed by Drs. Russell L. Haden, Kansas City, Mo.; W. L. Bierring, Des Moines, Iowa; Eugene Kilgore, San Francisco, and Lewellys F. Barker, Baltimore.

Friday, April 23—Afternoon

The meeting was called to order at 2 o'clock by the chairman

The following officers were elected: chairman, Rollyn T. Woodyatt, Chicago; vice chairman, M. L. Graves, Houston, Texas; secretary, B. W. Fontaine, Memphis, Tenn.; delegate, H. A. Christian, Boston; alternate, James E. Paullin, Atlanta, Ga.

Dr. Moses Barron, Minneapolis, read a paper on "Some Unique Features of Hodgkin's Disease."

Drs. M. K. Tedstrom, Corinth, Miss., and W. H. Olmsted, St. Louis, presented a paper on "Cholecystography in Diabetes Mellitus."

Dr. Rollin T. Woodyatt, Chicago, read a paper on "Method of Following Treatment in Diabetes."

These three papers were discussed by Drs. I. I. Lemann, New Orleans; Lee Rice, San Antonio, Texas; J. B. Guthrie, New Orleans; Moses Barron, Minneapolis, and Rollin T. Woodyatt, Chicago.

Dr. Clarence L. Andrews, Atlantic City, N. J., read a paper on "Circulatory Tonics Versus Circulatory Depressants in Cardiovascular-Renal Disease, with Hypertension."

Dr. W. J. MacDonald, St. Catherines, Ont., read a paper on "The Use of Liver Extract in the Treatment of High Blood Pressure."

Dr. J. E. Paullin, Atlanta, Ga., read a paper on "Ultimate Results of Essential Hypertension."

These three papers were discussed by Drs. John B. Nichols, Washington, D. C.; H. A. Christian, Boston; Lewellys F. Barker, Baltimore; Eugene S. Kilgore, San Francisco; Walter Shropshire, Yoakum, Texas, and W. J. MacDonald, St. Catherines, Ont.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

Wednesday, April 21—Morning

The meeting was called to order at 9:10 by the chairman, Dr. Dallas B. Phemister, Chicago.

Dr. Arthur Carroll Scott, Jr., Temple, Texas, read a paper on "Cauterization and Cautery Excision of Cancer: A Study of One Thousand Cases." Discussed by Drs. James F. Percy, Los Angeles; Elmer D. Twyman, Kansas City, Mo., and Arthur Carroll Scott, Temple, Texas.

Dr. Frank H. Lahey, Boston, read a paper on "Substernal Goiter."

Dr. Willard Bartlett, St. Louis, read a paper on "Recognition of the Toxic Patient Unsuited to Thyroidectomy."

These two papers were discussed by Drs. A. Bennett Cooke, Los Angeles; Arthur E. Hertzler, Halstead, Kan.; David C. Straus, Chicago; George W. Crile, Cleveland; Frank H. Lahey, Boston, and Willard Bartlett, St. Louis.

Dr. Hugh H. Young, Baltimore, read a paper on "Sterilization of Local and General Infections by Intravenous Injection of Mercurochrome-220 Soluble: Experimental and Clinical Evidence." Discussed by Drs. F. G. Du Bose, Selma, Ala.; R. J. Stroud, Tempe, Ariz.; Frank Hinman, San Francisco, and Hugh H. Young, Baltimore.

Dr. Barney Brooks, Nashville, Tenn., read a paper on "Ligation of the Aorta: A Clinical Experimental Study." Discussed by Drs. Rudolph Matas, New Orleans; J. Shelton Horsley, Richmond, Va., and Barney Brooks, Nashville, Tenn.

Dr. Stuart W. Harrington, Rochester, Minn., read a paper on "The Surgical Treatment of Pulmonary Suppuration." No discussion.

Dr. James E. Thompson, Galveston, Texas, read a paper on "Septal Flats in the Closure of Unilateral Clefts of the Palate."

Dr. George V. I. Brown, Milwaukee, read a paper on "The Surgical Treatment of Cleft Palate: A New Operation Constructed from Parts of Many Old Operative Procedures."

These two papers were discussed by Drs. Vilray Papin Blair, St. Louis; George Morris Dorrance, Philadelphia; Gordon B. New, Rochester, Minn.; George V. I. Brown, Milwaukee, and James E. Thompson, Galveston, Texas.

Thursday, April 22—Morning

The meeting was called to order at 9 o'clock by the chairman.

The following officers were elected: chairman, J. Tate Mason, Seattle; vice chairman, J. de J. Pemberton, Rochester, Minn.; secretary, Frank H. Lahey, Boston; delegate, Urban Maes, New Orleans; alternate, Fordyce B. St. John, New York.

It was moved by Dr. George W. Crile, Cleveland, that the Executive Committee be given power to appoint one member on a committee of three to arrange for a fracture exhibit next year; also a symposium on fractures.

Motion seconded and carried.

Dr. Dallas B. Phemister, Chicago, read the chairman's address.

Dr. Edgar Lorrington Gilcreest, San Francisco, read a paper on "Fractures of the Ankle Joint and of the Lower End of the Tibia and Fibula." Discussed by Drs. Willis Cohoon Campbell, Memphis, Tenn.; Isadore Cohn, New Orleans; David C. Straus, Chicago, and Edgar Lorrington Gilcreest, San Francisco.

Dr. George Morris Dorrance, Philadelphia, read a paper on "Results of Animal Experimentation with Osteoperiosteal Bone Grafts." No discussion.

Dr. Joseph Colt Bloodgood, Baltimore, read a paper on "Diagnosis and Treatment of Benign and Early Malignant Lesions of the Oral Cavity." Discussed by Drs. Albert Compton Broders, Rochester, Minn., and Joseph Colt Bloodgood, Baltimore.

Dr. Thomas G. Orr, Kansas City, Mo., read a paper on "Jejunostomy: A Clinical Review and Experimental Findings." Discussed by Drs. J. Shelton Horsley, Richmond, Va., and Thomas G. Orr, Kansas City, Mo.

Dr. John Adams Wolfer, Chicago, read a paper on "Experimentally Produced Chronic Gastric Ulcer and Its Clinical Significance." Discussed by Drs. Urban Maes, New Orleans; E. Starr Judd, Rochester, Minn., and John Adams Wolfer, Chicago.

Dr. George W. Crile, Cleveland, read a paper on "The Function of the Liver in Its Relation to Operations on the Gallbladder and Ducts." Discussed by Drs. A. S. Lobingier, Los Angeles, and George W. Crile, Cleveland.

Dr. William J. Mayo, Rochester, Minn., read a paper on "The Interrelation of Lesions of the Liver, the Bone Marrow and the Spleen." Discussed by Drs. William D. Haggard, Nashville, Tenn.; Jabez North Jackson, Kansas City, Mo., and William J. Mayo, Rochester, Minn.

Dr. Stanley R. Maxeiner, Minneapolis, read a paper on "Local Anesthesia as an Adjunct in the Treatment of Nontuberculous Lesions in Tuberculosis Patients." Discussed by Drs. Francis Marion Pottenger, Monrovia, Calif.; Alfred Strauss, Chicago, and Stanley R. Maxeiner, Minneapolis.

Friday, April 23—Morning

The meeting was called to order at 9 o'clock by the chairman.

A joint meeting was held with the Section on Nervous and Mental Diseases.

Dr. Ernest Sachs, St. Louis, read a paper on "Definite Level Symptoms Suggesting Spinal Tumor: A Study of Thirty Cases in which Laminectomy was Done." Discussed by Drs. James B. Ayer, Boston; Martin B. Tinker, Ithaca, N. Y., and Ernest Sachs, St. Louis.

The following papers were read as a symposium on "Sympathectomy":

Dr. S. W. Ranson, St. Louis: "The Anatomy of the Sympathetic Nervous System."

Drs. Alexander Forbes and Stanley Cobb, Boston: "Physiology of the Sympathetic Nervous System in Relation to Certain Surgical Problems."

Drs. Loyal E. Davis and Allen B. Kanavel, Chicago: "Sympathectomy in Spasticities of the Extremities."

Dr. Raymond W. McNealy, Chicago: "Periarterial Sympathectomy."

Dr. Elliott C. Cutler, Cleveland: "Sympathectomy in Angina Pectoris."

These five papers were discussed by Drs. Herbert E. Coe, Seattle; Charles S. Venable, San Antonio; Samuel Clark Harvey, New Haven, Conn.; Walter B. Coffey, San Francisco; Alexander Lambert, New York; Arthur Steindler, Iowa City; W. B. Carrell, Dallas, Texas; S. W. Ranson, St. Louis; Alexander Forbes, Boston; Loyal E. Davis, Chicago; Raymond W. McNealy, Chicago, and Elliott C. Cutler, Cleveland.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

Wednesday, April 21—Afternoon

The meeting was called to order at 2 o'clock by the chairman, Dr. George Gray Ward, New York.

Dr. Carey Culbertson, Chicago, read a paper on "Erosion of the Cervix Uteri with Observations on Its Causes, Its Development and Its End-Results."

Dr. C. Jeff Miller, New Orleans, read a paper on "Chronic Endocervicitis: Its Etiology, Symptomatology and Secondary Pelvic Manifestations."

Dr. Harvey B. Matthews, Brooklyn, read a paper on "The Sturmdorf Operation Versus the Cautery in the Treatment of Chronic Endocervicitis."

Drs. B. C. Corbus and V. J. O'Conor, Chicago, presented a paper on "Diathermy in the Treatment of Gonorrheal Endocervicitis."

Dr. George Gellhorn, St. Louis, read a paper on "Syphilis of the Cervix."

Dr. Grant E. Ward, Baltimore, read a paper on "The Treatment of Cancer of the Uterine Cervix."

Dr. Frank W. Lynch, San Francisco, read a paper on "Five Year Results in Treatment of Cervical Cancer."

These seven papers were discussed by Drs. Arthur H. Curtis, Chicago; H. P. Newman, San Diego, Calif.; John O. Polak, Brooklyn; George W. Crile, Cleveland; Channing Barrett, Chicago; Carey Culbertson, Chicago; C. Jeff Miller, New Orleans; Harvey B. Matthews, Brooklyn; B. C. Corbus, Chicago; George Gellhorn, St. Louis; Grant E. Ward, Baltimore, and Frank W. Lynch, San Francisco.

Thursday, April 22—Afternoon

The meeting was called to order at 2 o'clock by the chairman.

Dr. Norris W. Vaux, Philadelphia, read a paper on "The Umbilical Cord." No discussion.

Drs. R. L. Dickinson, New York, and William H. Cary, Brooklyn, presented a paper on "Sterility: Analysis of Cures and Failures."

Dr. Donald Macomber, Boston, read a paper on "Low Calcium as a Cause of Intra-Uterine Mortality."

These two papers were discussed by Drs. George Gellhorn, St. Louis; James F. Cooper, Swampscott, Mass.; William H. Cary, Brooklyn, and Donald Macomber, Boston.

Dr. George Gray Ward, New York, read the chairman's address.

Drs. W. C. Danforth and C. E. Galloway, Evanston, Ill., presented a paper on "Retrodisplacement in Pregnancy and the Puerperium: A Study of One Thousand Private Cases."

Dr. Harold A Miller, Pittsburgh, read a paper on "Morbidity in One Thousand Postpuerperal Women: A Statistical Presentation."

These two papers were discussed by Drs. Channing Barrett, Chicago; Frank W. Lynch, Chicago; John O. Polak, Brooklyn; Otto H. Schwarz, St. Louis; C. E. Galloway, Evanston, Ill., and Harold A. Miller, Pittsburgh.

Dr. Carl Henry Davis, Milwaukee, read a paper on "Observations on Thyroid Hypertrophy and Pregnancy."

Drs. Robert D. Mussey, William A. Plummer and Walter M. Boothby, Rochester, Minn., presented a paper on "Pregnancy Complicating Exophthalmic Goiter and Adenomatous Goiter with Hyperthyroidism."

These two papers were discussed by Drs. Otto H. Schwarz, St. Louis; Joseph L. Baer, Chicago; J. Earl Else, Portland, Ore.; Carl Henry Davis, Milwaukee, and Robert D. Mussey, Rochester, Minn.

Friday, April 23—Afternoon

The meeting was called to order at 2 o'clock by the chairman.

The following officers were elected: chairman, Arthur H. Curtis, Chicago; vice chairman, George Gellhorn, St. Louis; secretary, Carl Henry Davis, Milwaukee; delegate, John O. Polak, Brooklyn; alternate, Lucius Burch, Nashville, Tenn.

Dr. J. Earl Else, Portland, Ore., read a paper on "Tuberculosis of the Lower Ileum." Discussed by Drs. I. D. Bronfin, Sanatorium, Colo., and J. Earl Else, Portland, Ore.

Drs. J. P. Pratt, Detroit, and Edgar Allen, Columbia, Mo., presented a paper on "Clinical Tests of the Ovarian Follicular Hormone." Discussed by Drs. Arthur H. Curtis, Chicago, and J. P. Pratt, Detroit.

Dr. James C. Masson, Rochester, Minn., read a paper on "Myomectomy, Hysterectomy and Radium in the Treatment of Uterine Fibromyomas." Discussed by Drs. Arthur H. Curtis, Chicago; Harvey B. Matthews, Brooklyn, and James C. Masson, Rochester, Minn.

Dr. John O. Polak, Brooklyn, read a paper on "Toxemias of Pregnancy: General Considerations."

Dr. J. P. Greenhill, Chicago, read a paper on "Eclampsia at the Chicago Lying-In Hospital."

Dr. Asa B. Davis, New York, read a paper on "Eight Hundred and Fifty Cases of Toxemia with Convulsions at the New York Lying-In Hospital."

Drs. Lyle G. McNeile and John Vruwink, Los Angeles, presented a paper on "Magnesium Sulphate Intravenously in the Treatment of Preeclampsia and Eclampsia."

These four papers were discused by Drs. E. M. Lazard, Los Angeles; Joseph L. Baer, Chicago; Otto H. Schwarz, St. Louis; J. P. Greenhill, Chicago; Asa B. Davis, New York, and John Vruwink, Los Angeles.

SECTION ON OPHTHALMOLOGY

Wednesday, April 21—Morning

The meeting was called to order at 9:15 by the chairman, Dr. Arnold Knapp, New York.

Dr. Arnold Knapp, New York, read the chairman's address, entitled "The Importance to the Practicing Oculist of Contributing to Literature."

Drs. E. V. L. Brown and Ernest E. Irons, Chicago, presented a paper on "Recurrence of Iritis as Influenced by the Removal of Infections."

Dr. William Zentmayer, Philadelphia, read a paper on "The Prostate as a Remote Focus of Infection in Ocular Inflammations."

Dr. Lloyd Mills, Los Angeles, read a paper on "Ocular Disease Occurring in the Course of Nondysenteric Amebiasis."

These three papers were discussed by Drs. George S. Derby, Boston; John O. McReynolds, Dallas, Texas; G. W. Jean, Santa Barbara, Calif.; Albert E. Bulson, Jr., Fort Wayne, Ind.; William H. Crisp, Denver; John Green, Jr., St. Louis; Melville Black, Denver; W. H. Olds, Los Angeles; T. B. Holloway, Philadelphia; John V. Barrow, Los Angeles; W. H. Wilder, Chicago; William C. Finnoff, Denver; Allen Greenwood, Boston; Arnold Knapp, New York; E. V. L. Brown, Chicago, and Lloyd Mills, Los Angeles.

Dr. S. R. Gifford, Omaha, read a paper on "Sympathetic Uveitis Caused by the Virus of Herpes Simplex: Report of Experiments." Discussed by Drs. Everett L. Goar, Houston, Texas; Arnold Knapp, New York, and S. R. Gifford, Omaha.

Drs. Lee Masten Francis and Ivan Koenig, Buffalo, presented a paper on "Retrobulbar Neuritis in Diabetes: Report of Case." Discussed by Drs. H. P. Wagener, Rochester, Minn.; H. L. Hilgartner, Austin, Texas; William Zentmayer, Philadelphia, and Lee Masten Francis, Buffalo.

Dr. William H. Crisp, Denver, read a paper entitled "An Ophthalmic Year Book, Why and How." This paper was discussed by Drs. Edward Jackson, Denver; Arnold Knapp, New York; T. B. Holloway, Philadelphia; W. H. Wilder, Chicago; W. L. Benedict, Rochester, Minn., and William H. Crisp, Denver.

Dr. F. Phinizy Calhoun, Atlanta, Ga., read a paper on "Ocular Symptoms in Subarachnoid Hemorrhage: A Clinical Consideration." No discussion.

Thursday, April 22—Morning

The meeting was called to order at 9 o'clock by the chairman.

Dr. Conrad Berens, Jr., New York, exhibited an iridocapsulotomy scissors.

Dr. Louis D. Green, San Francisco, presented a tropographic chart which automatically registers the muscles involved in paresis of the intra-ocular muscles.

Dr. Charles A. Bahn, New Orleans, presented an instrument for removing corneal foreign bodies.

Dr. G. C. Savage, Nashville, Tenn., presented an instrument for simplifying the study of ocular rotation—a modification of an instrument formerly presented.

Dr. Laura A. Lane, Baltimore, read a paper on "Radium in Ophthalmology: A Further Study, Experimental and Clinical." Discussed by Drs. Sanford M. Withers, Denver; Melville Black, Denver; G. C. Savage, Nashville, Tenn.; E. J. Curran, Kansas City, Mo.; Arnold Knapp, New York; W. H. Wilder, Chicago; W. L. Benedict, Rochester, Minn., and Laura A. Lane, Baltimore.

Dr. Arthur M. Yudkin, New Haven, Conn., read a paper on "The Aqueous Humor: A Critical and Experimental Study" Discussed by Drs. Lawrence T. Post, St. Louis; Arnold Knapp, New York, and Arthur M. Yudkin, New Haven, Conn.

Drs. William H. Stokes, Dallas, Texas, and Walter R. Parker, Detroit, presented a paper on "Intra-Ocular Sarcoma in Children: A Clinical and Pathologic Study of Ten Cases." Discussed by Drs. Henry C. Haden, Houston, Texas; William C. Finnoff, Denver; Conrad Berens, Jr., New York; Richard C. Gamble, Chicago; Mary Knight Asbury, Cincinnati, and Walter R. Parker, Detroit.

Dr. Edward Jackson, Denver, read a paper on "Retinoblastoma and Recent Views of Malignancy." Discussed by Drs. W. G. Gillett, Wichita, Kan.; S. R. Gifford, Omaha; William H. Crisp, Denver; William H. Stokes, Dallas, Texas, and Edward Jackson, Denver.

Dr. E. C. Ellett, Memphis, Tenn., read a paper on "Refractive Changes." Discussed by Drs. T. B. Holloway, Philadelphia; M. M. Cullom, Nashville, Tenn.; G. C. Savage, Nashville, Tenn.; Lloyd Mills, Los Angeles, and E. C. Ellett, Memphis, Tenn.

Dr. William L. Benedict, Rochester, Minn., read a paper on "Blepharochalasis: Report of Three Cases." Discussed by Dr. Conrad Berens, Jr., New York.

Dr. L. Herbert Lanier, Texarkana, Ark., read a paper on "Closure of the Retinal Vessels: Important Aspects in Diagnosis and Management that may be Overlooked." Discussed by Drs. J. M. Woodson, Temple, Texas; H. P. Wagener, Rochester, Minn.; G. W. Jean, Santa Barbara, Calif., and L. Herbert Lanier, Texarkana, Ark.

Before adjournment, the chairman announced the sudden death of Dr. Lee Masten Francis, Buffalo.

Friday, April 23—Morning

The meeting was called to order at 9 o'clock by the chairman.

The secretary read the following letter:

> Philadelphia, April 14, 1926.
>
> *Dr. William C. Finnoff:*—There remains in the bank a cash balance of $96.74 which has been left over from the funds of an international congress of ophthalmology which was held in Washington in April, 1922. As there will be no further occasion for any expense in connection with this meeting, there should be proper disposition made of this fund. It seemed best to Dr. de Schweinitz and myself to present the matter to the three ophthalmological bodies which were active in the organization of the congress, to determine the proper disposition. In all probability the Knapp Fund will appeal to a majority of the contributors. Will you kindly present the matter before the section and obtain their judgment in the matter?
>
> Luther C. Peter.

Dr. John Green, Jr., St. Louis, moved that this balance be transferred to the Knapp Fund. Motion seconded by Dr. Cassius Wescott, Chicago, and carried.

Dr. Harry S. Gradle, Chicago, reported progress in the Committee on Compensation Tables and Visual Economics and asked that the committee be continued.

Dr. Melville Black, Denver, moved that the report be accepted and the committee continued. Motion seconded by Dr. John Green, Jr., St. Louis, and carried.

No report was made by the Committee on Hereditary Blindness. Dr. W. L. Benedict, Rochester, Minn., moved that this committee be discontinued. Motion seconded by Dr. Cassius Wescott, Chicago, and carried.

No report was made by the Committee on Investigation of Ocular Muscles. Dr. W. H. Wilder, Chicago, moved that this committee be discontinued. Motion seconded by Dr. John Green, Jr., St. Louis, and carried.

The secretary read the following paragraph of a letter from Dr. William Campbell Posey, Philadelphia, chairman of the Committee on Visual Standards for Drivers of Motor Vehicles:

"The committee on Visual Tests for Automobile Drivers was continued for the purpose of conferring with the authorities of the A. M. A. as regards test cards, etc., but as the authorities have made no demand on us during the year, it seems to me it would be best to have our committee discontinued."

Dr. Arthur J. Bedell, Albany, N. Y., moved that the committee be discontinued. Motion seconded by Dr. John Green, Jr., St. Louis, and carried.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., stated that the committee on Local Anesthesia in Ophthalmic Work had no report to make, having made a rather extensive report last year which was adopted by the section. Dr. Bulson moved that the committee be discontinued. Motion seconded by Dr. Harry S. Gradle, Chicago, and carried.

The Committee to Cooperate with the Bureau of Standards and Other Committees on Systems of Designating Lenses and Prisms made the following report:

During the past year your committee has found it impossible to reach conclusions regarding the subject referred to it. It is at this time only able to report progress and to ask to be continued for the further consideration of the subject.

Respectfully submitted.

Edward Jackson.
Walter B. Lancaster.

Dr. Melville Black, Denver, moved the acceptance of the report and the continuance of the committee. Motion seconded by Dr. Harry S. Gradle, Chicago, and carried.

The report of the Committee on Optometry was made as in the presession volume.

Dr. E. C. Ellett, Memphis, Tenn., said: We have in this connection a standing committee in cooperation with all of the other special societies. It is made up of members from this section, from the American Ophthalmological Society, from the American Academy, the Triological, the American Otological and the American Laryngological. This committee was created for the purpose of having some central body to which all matters of interest to the practitioners engaged in this specialty could be referred. Of course the otolaryngologist is not interested in this question, and it seems to me that the proper disposition of this matter would be to ask the cooperation of the ophthalmologic societies in a joint standing committee.

Dr. John Green, Jr., St. Louis, moved that the report as printed be accepted. Motion seconded and carried.

Dr. W. H. Wilder, Chicago, moved that a committee of three, made up of representatives from each of the national ophthalmologic societies, be appointed by their presidents, to constitute such a permanent Committee on Optometry, this committee to take up and consider this subject and report to their respective societies the result of their deliberations.

The amendment of Dr. Wilder was accepted by Dr. Ellett, and on being put to vote, carried.

The Chairman being authorized to appoint one member on this committee, appointed Dr. Edward Jackson, Denver.

The Advisory Committee on Trachoma Among the Indians made the following report:

In suggestions offered to the Commissioner of Indian Affairs in regard to the problem of the control of trachoma among the Indians, the committee urged the importance of a careful survey with complete records to determine the prevalence of the disease among the members of the various tribes and nations of Indians.

The committee also urged the importance of prevention of the spread of the disease among Indians not already affected, by proper segregation of active cases in schools and villages so far as feasible, and also by a campaign of education as to the manner in which the disease is conveyed from one to another and the simple measures of cleanliness that will prevent such spread of the trouble.

The committee was gratified to hear from the commissioner that its suggestions were accepted and are being acted on. In a communication of Feb. 16, 1926, he says:

> The work of reducing the morbidity for trachoma has been aggressively carried on the past year. We are continuing our Southwestern trachoma campaign, with three units working. During the last fiscal year our special physicians examined a total of 68,223 Indians, and operated on 8,455. In addition, they treated 5,581 without surgery. This does not include the cases operated on and treated by the regular physicians. We have established a temporary trachoma hospital at Albuquerque with bed capacity for twenty patients, which has been operating at capacity during the greater part of the time. We have also established a trachoma unit at the Laguna, New Mexico, Sanatorium, and it is doing excellent work.
>
> In addition to the active measures we have been stressing the educational and prophylactic phase. We are enclosing a circular that has recently been sent out to the service. In accordance with the suggestions of your committee, we have designated two annual trachoma weeks, during which all workers in the service, including missionaries and ministers, are requested to stress the importance of this problem.
>
> In concluding, the office wishes to again express its appreciation for your helpful suggestions and assistance, and signify its hopefulness that the American Medical Association will continue the services of the committee at its next annual session.

Again in a letter of March 2, 1926, he says:

> Receipt is acknowledged of your letter dated Feb. 27, 1926, concerning the trachoma work in the Indian Service. Concerning the suggestion of your committee that a complete survey is necessary, the office is now making up a permanent record of the trachoma at each agency and school, and we hope eventually to get a complete survey. We now keep a monthly record which will show the number examined, the cases found, and the disposition of each case by jurisdictions.

The circular referred to is directed to superintendents of Indian schools and physicians in the service and insists on certain hygienic details in schools and meeting places looking toward the prevention of the spread of the disease.

The committee is recommending to the House of Delegates the appointment of an additional member to the committee, Dr. Francis I. Proctor, formerly a practicing ophthalmologist in Boston, now residing in Camden, S. C., who is much interested in the subject, and who has time to devote to it.

William Campbell Posey.
Arnold Knapp.
William H. Wilder, Chairman.

Dr. Cassius Wescott, Chicago, moved the adoption of this report. Motion seconded and carried. This committee having been appointed by the House of Delegates, this section takes no action in regard to continuing or discontinuing the committee.

On the Report of the Committee on the Knapp Testimonial Fund as printed in the Presession Volume, Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., said: One thing I wish to stress in connection with this report is the fact that it is not sufficiently representative. In other words, there are not enough members of this section subscribing to the fund. This fund is primarily for the benefit of the Section on Ophthalmology. Originally it was established to help defray some of the expenses of the section that had to be borne by the officers, but now the principal use is to help in original research work. We now have something like $7,000 in good securities, when we should have $25,000. There are 308 subscribers. Each year a letter is sent out from my office to each member whose name is listed in the presession volume, asking for their subscriptions. I would be glad to have suggestions as to some means by which to increase this fund.

Dr. Meyer Wiener, St. Louis, moved the adoption of this report. Motion seconded and carried.

Dr. Bulson said: There has been no auditing committee appointed for the books of this fund, but I have had the books audited each year by the bank where I keep the fund.

Dr. E. C. Ellett, Memphis, Tenn., reported that the Committee on Awarding the Knapp Medal had carefully considered each of the papers that were presented at the last session, and had decided not to make an award of the medal this year.

Dr. John Green, Jr., St. Louis, moved the acceptance of this report. Motion seconded and carried.

The Secretary read the following paragraph from a letter from Dr. William Campbell Posey, Philadelphia:

> As regards the Committee on the National Congress for the Conservation of Vision, it would appear that as this entire matter is now covered by the committee of which Mr. E. Trechor Collins of London is chairman, our committee is entirely superfluous and might well be discontinued.

Dr. George S. Derby, Boston, said: Last year there was a report from this committee, and one of its suggestions was that as a first step toward such a congress the Committee on the Prevention of Blindness might take the initiative in making its survey. The International Committee has sent a report and asked me to read it. They agree with the committee from this section that the time is not ripe for an international congress. This conclusion was reached after several conferences at the London convention last year. The International Committee is much interested in this proposed congress at some future time, and at the proper time will gladly cooperate with the Section on Ophthalmology of the American Medical Association and with such other organizations of this country as may seem desirable in planning for an international congress on the conservation of vision.

Dr. Cassius Wescott, Chicago, moved that the report be accepted and the committee discontinued. Motion seconded by Dr. John Green, Jr., St. Louis, and carried.

Dr. W. H. Wilder, Chicago, said: The American Board for Ophthalmic Examinations is carrying on. We held an examination in Dallas on the 19th. Since we have been organized we have passed something like 525 members and have given them certificates.

We are contemplating the publication of a directory to be distributed rather widely—an alphabetical list and probably also a geographic list. The American Medical Association in its annual directory indicates, as you have observed, in a certain way those who have been certificated by our board, so that our influence is gradually widening and we are beginning to see some results of our work.

The board has never failed to have a quorum present at any of its meetings, and even during the war we had meetings at which all nine members were present. And to further show the loyalty of the board to its work, we have on a number of occasions sat up till the wee sma' hours of the morning in our necessary deliberations at these annual meetings.

Dr. Cassius Wescott, Chicago, moved that the report be accepted. Motion seconded by Dr. Meyer Wiener, St. Louis, and carried.

The Executive Committee made the following report:

In 1924, Dr. Lucien Howe of Buffalo established a fund of $150 to be held by the Trustees of the American Medical Association, the income of which should be used for a medal to be awarded each year, at the discretion of the Executive Committee of the section. This medal is to be awarded for research in ophthalmology or allied branches. Your committee desires to announce that the medal has been awarded this year to Dr. Edward Jackson, Denver.

The question of a Year Book has been taken up by the Executive Committee, who regard it as a problem of great importance to the ophthalmologists of this country. The committee would suggest that this section take some action whereby the Year Book shall be put on a sound financial basis. The committee would suggest that, in order to hasten action, a member be appointed from this section to serve with members who might be appointed from the two other national ophthalmic societies. In other words, that the other ophthalmic societies are invited to form a joint committee with a member from this section to investigate the question of the Year Book, to come to some conclusion if possible, and to report at the next annual meeting of this section.

George S. Derby.
Arnold Knapp.
Thomas B. Holloway.

The following officers were elected: chairman, Dr. John A. Donovan, Butte, Mont.; vice chairman, Dr. William H. Crisp, Denver; Member, Board on Ophthalmic Examinations, Dr. W. H. Wilder, Chicago.

The following men were duly elected members of the Committee on Awarding the Knapp Medal: Dr. Francis Lane, Chicago; Dr. George S. Derby, Boston; Dr. Thomas B. Holloway, Philadelphia.

The Chairman read again the resolution passed by the section at the Chicago session:

> *Resolved,* That it is the sense of the Section on Ophthalmology of the American Medical Association that we deprecate the selling of glasses by the ophthalmologist to his patients in communities where the services of a reliable dispensing optician are available; and
>
> *Resolved,* That the acceptance of a commission or consideration, either directly or indirectly, from an optician or optical house, from the sale of glasses is absolutely contrary to all of our standards of medical ethics and is just as reprehensible as the splitting of fees.

Dr. W. L. Benedict, Rochester, Minn., moved that this section invite the American Ophthalmological Society and the American Academy of Ophthalmology and Otolaryngology to participate in the formation of a committee of three, one man from each of the societies, to carry out the suggestions of the Executive Committee in regard to the Year Book. Motion seconded by Dr. T. B. Holloway, Philadelphia, who suggested that the committee confer on this matter with Dr. W. H. Crisp of Denver. Motion carried.

Dr. E. C. Ellett, Memphis, Tenn., presented a resolution on the death of Dr. Francis.

Dr. Ellett moved the adoption of this resolution, and that a copy be sent to Mrs. Francis. Motion seconded and carried.

The Chairman announced that Dr. Jonas Friedenwald, Baltimore, had been appointed on the Museum Committee to fill the vacancy occasioned by the death of Dr. Marcus Feingold.

Dr. Meyer Wiener, St. Louis, read a paper on "Mucous Membrane from the Middle Turbinate in Plastic Surgery of the Eye." Discussed by Drs. Lloyd Mills, Los Angeles, and Meyer Wiener, St. Louis.

Drs. A. Ray Irvine and M. F. Weymann, presented a paper on "The Effect of Viewing Motion Pictures on Visual Acuity: Preliminary Report." Discussed by Drs. Charles A. Bahn, New Orleans; William H. Crisp, Denver; W. B. Lancaster, Boston, and M. F. Weymann, Los Angeles.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., read a paper on "The Tolerance of Foreign Bodies in the Posterior Segment of the Eye." Discussed by Drs. Ancil Martin, Phoenix, Ariz.; John Green, Jr., St. Louis; Lloyd Mills, Los Angeles; Melville Black, Denver; J. E. Jennings, St. Louis, and Albert E. Bulson, Jr., Fort Wayne, Ind.

Dr. Arthur J. Bedell, Albany, N. Y., read a paper on "The Anterior Lens Capsule: A Clinical and Pathologic Study." Discussed by Drs. W. B. Lancaster, Boston; Harry S. Gradle, Chicago, and Arthur J. Bedell, Albany, N. Y.

Dr. John Green, Jr., St. Louis, read a paper on "Safeguards in Cataract Expression." Discussed by Drs. Clarence King, Cincinnati; H. W. Woodruff, Joliet, Ill.; E. C. Ellett, Memphis, Tenn.; Meyer Wiener, St. Louis; W. B. Lancaster, Boston; Albert N. LeMoine, Kansas City, Mo., and John Green, Jr., St. Louis.

Dr. Archibald E. Chace, Texarkana, Ark., read a paper on "Color Blindness in Industry." Discussed by Drs. J. E. Jennings, St. Louis; R. H. T. Mann, Texarkana, Ark., and Archibald E. Chace, Texarkana, Ark.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

WEDNESDAY, APRIL 21—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Samuel Iglauer, Cincinnati.

Dr. Samuel Iglauer, Cincinnati, read the chairman's address. Discussed by Drs. I. D. Bronfin, Sanatorium, Colo.; Thomas E. Carmody, Denver, and Samuel Iglauer, Cincinnati.

Dr. Fenton B. Turck, New York, read a paper on "Otolaryngology in General Diseases: Clinical Application of the Experimental Findings in Diseases of Metabolism." Discussed by Dr. Burt R. Shurly, Detroit.

Dr. Joseph C. Beck, Chicago, chairman, presented the report of the Examining Board in Otolaryngology.

Examinations were held at Chicago during the academy meeting, at which time fifteen candidates were examined. At Dallas, April 19, sixty-one were examined, and another examination will be held in San Francisco, April 27. There will be another examination in Montreal in connection with the American Triological Society some time in June—the exact date will be published in the various journals. We have appreciated the way we have been treated at the hospital, every facility having been afforded us for this work.

Dr. Beck moved that the report be adopted. Motion seconded and carried.

Dr. Horace Newhart, Minneapolis, presented the following resolution:

> Recognizing the fact that the most effective means for the prevention of deafness consists in the early detection of hearing impairment, thereby giving opportunity for the prompt removal of contributing causes, and believing it to be one of the important functions of our public school authorities to safeguard the integrity of the special sense organs as well as the general health of the school child; therefore be it
>
> *Resolved*, By the Section on Laryngology, Otology and Rhinology of the American Medical Association that it heartily favors the provision by our public school authorities for regular periodic examinations of the hearing acuity of all public school children, such examinations to be adequate to detect even slight degrees of hearing loss; and be it further
>
> *Resolved*, That this resolution be referred to the House of Delegates of the American Medical Association for its endorsement.

Dr. Horace Newhart moved that this resolution be adopted and transmitted to the House of Delegates. Motion seconded and carried.

Dr. Harvey Stallard, San Diego, Calif., read a paper on "Maxillary Deformations." Discussed by Drs. Thomas E. Carmody, Denver; Greenfield Sluder, St. Louis; Eugene R. Lewis, Los Angeles, and Harvey Stallard, San Diego, Calif.

Dr. John J. Shea, Memphis, Tenn., read a paper on "The Surgical Treatment of Acute Suppurative Paranasal Sinusitis." Discussed by Drs. R. C. Lynch, New Orleans; Ross H. Skillern, Philadelphia; Eugene R. Lewis, Los Angeles; George E. Shambaugh, Chicago; F. J. Pratt, Minneapolis, and John J. Shea, Memphis, Tenn.

Dr. Dana W. Drury, Boston, read a paper on "Vertigo: Its Incidence in Endocrine Disorders." Discussed by Drs. Eugene R. Lewis, Los Angeles, and Dana W. Drury, Boston.

Dr. Frank R. Spencer, Boulder, Colo., read a paper on "Importance of the Early Diagnosis and Treatment of Laryngeal Tuberculosis." Discussed by Drs. Hill Hastings, Los Angeles; Joseph C. Beck, Chicago; W. V. Mullin, Cleveland; I. D. Bronfin, Sanatorium, Colo., and Frank R. Spencer, Boulder, Colo.

THURSDAY, APRIL 22—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

Dr. Arthur W. Proetz, St. Louis, read a paper on "Displacement Irrigation: A New Procedure in the Diagnosis and Conservative Treatment of Posterior Sinus Disease."

Dr. Greenfield Sluder, St. Louis, read a paper on "Two Factors in Catarrhal Deafness: The Lower Turbinate (Technic) and the Sphenoid Sinus (Anatomy)."

These two papers were discussed by Drs. George M. Coates, Philadelphia; George E. Shambaugh, Chicago; Robert Barclay, St. Louis; Edwin C. Ernst, St. Louis; Harold M. Hays, New York; E. Lee Myers, St. Louis; J. Addison Lea, Kansas City, Mo.; J. M. Robison, Houston, Texas; Sidney Israel, Houston, Texas; Arthur W. Proetz, St. Louis, and Greenfield Sluder, St. Louis.

Dr. Wells P. Eagleton, Newark, N. J., read a paper on "Surgical Treatment of Meningitis from Aural Origin." Discussed by Drs. E. R. Carpenter, Dallas, Texas; G. L. Richards, Boston; Hill Hastings, Los Angeles, and Wells P. Eagleton, Newark, N. J.

Dr. Hill Hastings, Los Angeles, read a paper on "Sinus and Jugular Thrombosis (Bilateral), Bilateral Ligation; Recovery; Report of Case." Discussed by Drs. George M. Coates, Philadelphia; O. Jason Dixon, Kansas City; R. H. T. Mann, Texarkana, Ark.; Sam E. Roberts, Kansas City Mo., and Hill Hastings, Los Angeles.

Dr. Horace Newhart, Minneapolis, read a paper on "The Diagnostic Ear Clinic in the Public Schools as a Factor in the Conservation of Hearing."

Drs. E. P. Fowler and Harvey Fletcher, New York, presented a paper on "Three Million Deafened School Children: Methods for Their Detection and Treatment."

These two papers were discussed by Drs. Austin A. Hayden, Chicago; Harold M. Hays, New York; Horace Newhart, Minneapolis, and Harvey Fletcher, New York.

FRIDAY, APRIL 23—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

The following officers were elected: chairman, Dr. George M. Coates, Philadelphia; vice chairman, Dr. R. C. Lynch, New Orleans; secretary, Dr. W. V. Mullin, Cleveland; delegate, Dr. Burt R. Shurly, Detroit; alternate, Dr. George E. Shambaugh, Chicago; Executive Committee, Drs. George M. Coates, Philadelphia; Samuel Iglauer, Cincinnati; and Charles W. Richardson, Washington, D. C.

Dr. Horace Newhart, Minneapolis, presented an electric light appliance for the remote control by the chairman of a speaker.

Dr. Amédée Granger, New Orleans, showed slides of a device which permits greater uniformity in making roentgenograms when duplicates are desired.

The Committee on Necrology presented its report.

On motion of Dr. C. W. Richardson, Washington, D. C., duly seconded, this report was accepted, and the section stood with bowed heads for one minute in memory of the deceased members.

The Committee on Lye Legislation made its report. Dr. C. W. Richardson, Washington, D. C., the vice chairman, gave a detailed account of the work of the committee before the committees of the Senate and House at Washington.

On motion of Dr. Harold M. Hays, New York, duly seconded, the report was accepted and the committee reappointed with a vote of thanks for its work.

It was moved by Dr. Ross H. Skillern, Philadelphia, that the report of the Examining Board in Otolaryngology (read at the Wednesday afternoon session) be received and the committee reappointed. Motion seconded and carried.

The Committee on Otorhinologic Hygiene of Swimming presented its report.

Dr. Austin A. Hayden, Chicago, moved that this report be accepted, that the committee be continued and that the recommendations made by the committee be carried out on due conference with the chairman of this section. Motion seconded by Dr. Harold M. Hays, New York, and carried.

Dr. Charles W. Richardson, Washington, D. C., presented the report of the Permanent Committee on the Deaf Child:

The Permanent Committee on the Deaf Child reports progress. The activity which is shown along all lines in taking cognizance of the requirements of the young and adult deaf among the otologists of the country, since the creation of this committee, is no doubt partly due to the appointment of this committee. Through the generous action of the National Research Council, sufficient funds have been furnished to aid this committee in carrying on its research work in investigation of the physical auditory condition of the deaf. This reasearch can now be carried out along more uniform and efficient lines than was possible under voluntary effort.

Dr. Harold M. Hays, New York, moved that the report be accepted and the committee continued. Motion seconded and carried.

Dr. C. W. Richardson moved that the two committees (Committee on the Deaf Child and Committee on the Adult Deaf be separated, allowing the Permanent Committee on the Deaf Child to stand as it is, and making a second Committee on the Adult Deaf under the chairmanship of Dr. Harold M. Hays, New York. Motion seconded by Dr. Austin A. Hayden, Chicago.

After considerable discussion it was moved by Dr. Wendell C. Phillips that the work of the Committee on the Deaf Child include adventitious deafness without speech, and that adventitious deafness in children with speech be included in the work of the other committee.

This amendment was accepted by Dr. Richardson; the amendment carried, and the original motion as amended carried.

Dr. Herman J. Moersch, Rochester, Minn., read a paper on "Hysterical Dysphagia." Discussed by Drs. John B. Potts, Omaha; Dan Brannin, Dallas, Texas; E. Lee Myers, St. Louis; Charles W. Richardson, Washington, D. C., and Herman J. Moersch, Rochester, Minn.

Dr. William W. Wasson, Denver, read a paper on "The Thymus Gland." Discussed by Drs. Percy Luecke, Dallas, Texas; C. U. Moore, Portland, Ore.; H. F. Helmholz, Rochester, Minn., and William W. Wasson, Denver.

Dr. Albert D. Kaiser, Rochester, N. Y., read a paper on "Indications for Tonsillectomy in Children Based on End-Results."

Dr. Edwin S. Ingersoll, Rochester, N. Y., read a paper on "Surgical Study of Eight Thousand Tonsillectomies in Children."

Dr. F. J. Pratt, Minneapolis, read a paper on "Postoperative Results of Tonsil Operations: A Questionnaire Report."

These three papers were discussed by Drs. Hugh McCulloch, St. Louis; Roy A. Barlow, Madison, Wis.; Sam E. Roberts, Kansas City, Mo.; W. V. Mullin, Cleveland; Albert D. Kaiser, Rochester, N. Y.; Edwin S. Ingersoll, Rochester, N. Y., and F. J. Pratt, Minneapolis.

SECTION ON DISEASES OF CHILDREN

Wednesday, April 21—Morning

The meeting was called to order at 9:35 by the chairman, Dr. Clifford G. Grulee, Chicago.

Dr. V. David Greer, Houston, Texas, read a paper on "The Clinical Study of the Therapy of Pyloric Stenosis in Infants." Discussed by Drs. H. Leslie Moore, Dallas, Texas; H. F. Helmholz, Rochester, Minn.; A. Aballi, Havana, Cuba; F. W. Schlutz, Minneapolis; A. J. Scott, Los Angeles; Jules M. Brady, St. Louis; E. P. Gengenbach, Denver; Leon Velasco Blanco, Buenos Aires, Argentina; F. C. Neff, Kansas City, Mo., and V. David Greer, Houston, Texas.

Dr. Clifford G. Grulee, Chicago, read the chairman's address, entitled "Infant Feeding."

Dr. F. H. Richardson, Brooklyn, read a paper on "The Breast Feeding Demonstration and the Physician."

Dr. C. Ulysees Moore, Portland, Ore., read a paper on "Breast Feeding Problems."

Drs. J. Victor Greenebaum and A. Graeme Mitchell, Cincinnati, presented a paper on "Effects of Diet During Pregnancy on the Development of Rickets in the Offspring."

These three papers were discussed by Drs. E. J. Huenekens, Minneapolis; R. Ralph Ferguson, Chicago; M. L. Turner, Des Moines; A. J. Scott, Los Angeles; G. B. McFarland, Dallas, Texas; Charles G. Kerley, New York; F. W. Schlutz, Minneapolis; H. R. Sackett, St. Petersburg, Fla.; Floyd Clarke, Omaha; F. H. Richardson, Brooklyn; C. Ulysees Moore, Portland, Ore., and J. Victor Greenebaum, Cincinnati.

Dr. A. Aballi, Havana, Cuba, read a paper entitled "Could the Prognosis of Infantile Anemias Be Sustained Only by the Hemogram?"

Thursday, April 22—Morning

The meeting was called to order at 9 o'clock by the chairman.

Dr. F. W. Schlutz, Minneapolis, read a paper on "The Plasma Proteins in Orthostatic Albuminuria." Discussed by Dr. H. F. Helmholz, Rochester, Minn.

Dr. H. F. Helmholz, Rochester, Minn., read a paper on "Exophthalmic Goiter in Childhood." No discussion.

The following papers were read as a symposium on "Chronic Nonspecific Infections of the Lungs and Bronchi:"

Dr. John Lovett Morse, Boston: "General Introduction and Diagnosis."

Dr. William V. Mullin, Cleveland: "Relationship to Infection in Upper Respiratory Area."

Dr. Chevalier Jackson, Philadelphia: "Bronchoscopic Phases of Chronic Nonspecific Infections in the Lungs."

Dr. Joseph Brenneman, Chicago: "Medical Treatment."

Dr. Evarts A. Graham, St. Louis: "Surgical Treatment."

Friday, April 23—Morning

The meeting was called to order at 9:05 by the chairman.

The following officers were elected: chairman, Dr. Henry J. Gerstenberger, Cleveland; vice chairman, Dr. Edgar P. Copeland, Washington, D. C.; secretary, Dr. Hugh McCulloch, St. Louis; delegate, Dr. I. A. Abt, Chicago; alternate, Dr. E. J. Huenekens, Minneapolis; member of Abraham Jacobi Fund Committee, Dr. Clifford G. Grulee, Chicago; Committee on Education of Pediatrics: Drs. Julius Hess, Chicago, chairman; W. A. Mulherin, Augusta, Ga., and Frank Gengenbach, Denver, Colo.

Dr. F. C. Neff, Kansas City, Mo., presented the report for the Abraham Jacobi Fund Committee.

Dr. I. A. Abt, Chicago, spoke about a communication from Dr. J. M. Dodson, Chicago, recommending the printing of a blank to be used in periodic health examination of infants and children. A committee was to be appointed by the chairman to consider the matter proposed by Dr. Dodson.

Dr. H. F. Helmholz of the Executive Committee presented the following resolutions:

> *Resolved*, That the Section on Diseases of Children of the American Medical Association extend to the Dallas County Medical Society its most sincere thanks for the many courtesies extended to its members.
>
> Second, that the Section on Diseases of Children of the American Medical Association extend its thanks to Dr. Leslie Moore and his local committee for the true Southern hospitality that we have enjoyed here in Dallas.
>
> Third, that the Section on Diseases of Children of the American Medical Association send greetings to the Medical Association of the Argentine Republic and the Pediatric Society of Buenos Aires, with the hope that this auspicious beginning of relationship be cemented into a more firm friendship.
>
> Fourth, that it express to our invited guest, Dr. A. Aballi of Havana, Cuba, and to Dr. Leon Velasco Blanco of Buenos Aires, Argentine Republic, its appreciation of the honor they have done us in coming here, and extend to them our thanks for the part they have played in our scientific program.

The resolution of the Executive Committee was moved for adoption by Dr. G. H. Fellman, Milwaukee, seconded by Dr. M. L. Turner, Des Moines, Iowa, and unanimously carried. Adoption of the Executive Committee report as a whole was moved by Dr. I. A. Abt, Chicago, seconded by Dr. Frank Gengenbach, Denver, and carried unanimously.

Dr. Leon Velasco Blanco, Buenos Aires, Argentina, read a paper entitled "Contribution to the Study of Meningeal Hemorrhage." No discussion.

Dr. P. H. Sylvester, Boston, read a paper on "Twenty-Five Years of Congenital Syphilis: A Comparative and Statistical Study." No discussion.

Drs. I. A. Abt and Alfred A. Strauss, Chicago, presented a paper on "Meckel's Diverticulum as a Cause of Intestinal

Hemorrhage: Report of Five Cases." Discussed by Drs. L. D. Hill, San Antonio, Texas; C. Ulysses Moore, Portland, Ore.; J. B. Stone, Richmond, Va.; H. F. Helmholz, Rochester, Minn.; F. C. Neff, Kansas City, Mo.; F. W. Schlutz, Minneapolis, and Alfred A. Strauss, Chicago.

Drs. H. J. Gerstenberger and John D. Nourse, Cleveland, presented a paper on "The Prevention of Rickets in Premature Infants." No discussion.

Dr. Stafford McLean, New York, read a paper on "The End-Results of Specific Serum Therapy in Sporadic Meningococcus Meningitis in Infancy and Early Childhood." No discussion.

Drs. P. C. Jeans and M. L. Floyd, Iowa City, presented a paper on "Paranasal Sinusitis as a Cause of So-Called Alimentary Intoxication." Discussed by Drs. E. C. Mitchell, Memphis, Tenn.; John J. Shea, Memphis, Tenn.; John L. Morse, Boston; H. J. Gerstenberger, Cleveland; Jules M. Brady, St. Louis; H. F. Helmholz, Rochester, Minn., and M L. Floyd, Iowa City.

Drs. E. J. Huenekens and L. C. Rigler, Minneapolis, presented a paper on "Osteomyelitis Variolosa." Discussed by Dr. O E. Egbert, El Paso.

Dr. J. D. Boyd, Iowa City, read a paper on "The Use of Standard Diet Formulas in the Management of Juvenile Diabetes Mellitus." Discussed by Drs. William H. Olmsted, St. Louis; M. L. Turner, Des Moines, Iowa, and J. D. Boyd, Iowa City.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

Wednesday, April 21—Morning

The meeting was called to order at 9:15 by the chairman, Dr. Thomas Ordway, Albany, N. Y.

Dr. G. Canby Robinson, Nashville, Tenn., read a paper on "The Measurement of the Cardiac Output and Its Variations."

Drs. A. A. James, N. B. Laughton and A. Bruce Macallum, London, Ont., presented a paper on "The Antipressor Fraction in Liver Tissue and Its Physiologic Action."

Dr. Ralph H. Major, Kansas City, Kan., read a paper on "The Action of Hepatic Extract in Hypertension."

Dr. George E. Brown, Rochester, Minn., read a paper on "Treatment of the Peripheral Vascular Disturbances of the Extremities."

Dr. Joseph L. Miller, Chicago, read a paper on "The Visceral Manifestations of Diffuse Cardiovascular Hypertensive Disease."

These five papers were discussed by Drs. J. N. Hunsberger, Norristown, Pa.; E. C. Thrash, Atlanta, Ga.; J. H. Pratt, Boston; Walter Shropshire, Yoakum, Texas; Emmet F. Horine, Louisville, Ky.; Wilbur A. Baker, Kansas City, Mo.; I. I. Lemann, New Orleans, La., and G. C. Robinson, Nashville, Tenn.

Thursday, April 22—Morning

The meeting was called to order at 9:10 by the secretary, Dr. Norman M. Keith, Rochester, Minn.

Dr. Thomas Ordway, Albany, N. Y., read the chairman's address, entitled "Conservative Therapeutics."

Dr. G. S. Amsden, Albany, N. Y., read a paper on "Psychopathology in General Practice." No discussion.

Dr. J. B. Collip, Edmonton, Alta., read a paper on "The Therapeutic Value of the Parathyroid Hormone." Discussed by Drs. Robert Dinsmore, Cleveland; Norman M. Keith, Rochester, Minn.; Martin B. Tinker, Ithaca, N. Y.; Orlando H. Petty, Philadelphia; Frank C. Neff, Kansas City, Mo., and J. B. Collip, Edmonton, Alta.

Dr. Walter M. Bartlett, Boston, read a paper on "Protein Requirement in Children. Discussed by Drs. John R. Williams, Rochester, N. Y.; Norman M. Keith, Rochester, Minn., and Walter M. Bartlett, Boston.

Drs. Martin B. Tinker and Henry B. Sutton, Ithaca, N. Y., presented a paper on "The Inefficiency of Most Commonly Used Antiseptics in Medicine and Surgery. Discussed by Drs. Hugh Young, Baltimore, and Martin B. Tinker, Ithaca, N. Y.

Dr. Walton Forest Dutton, Amarillo, Texas, read a paper on "Chronic Hereditary and Familial Hemolytic Jaundice with Splenomegaly and Hepatomegaly." No discussion.

Dr. K. K. Chen, Madison, Wis., read a paper on "The Action and Clinical Use of Ephedrine, an Alkaloid Isolated from the Chinese Drug Mahuang." Discussed by Drs. George E. Brown, Rochester, Minn.; A. P. Munsch, St. Louis; Ralph H. Major, Kansas City, Kan.; Joseph L. Miller, Chicago; Dr. Clyde Brooks, Tuscaloosa, Ala.; J. I. Johnston, Pittsburgh; Julien E. Benjamin, Cincinnati, and K. K. Chen, Madison, Wis.

Dr. George E. Brown, Rochester, Minn., moved that the appointment of Dr. Roger I. Lee, Boston, be authorized as alternate delegate to the House of Delegates of the American Medical Association from the Section on Pharmacology and Therapeutics. Motion seconded by Dr. Ralph Major, Kansas City, Kan., and carried.

Friday, April 23—Morning

The meeting was called to order at 9:10 by the chairman.

The following officers were elected: chairman, Dr. W. de B. MacNider, Chapel Hill, N. C.; vice chairman, Dr. Roger Lee, Boston; secretary, Dr. Norman M. Keith, Rochester, Minn.; delegate, Dr. Paul D. White, Boston; alternate, Dr. Cary Eggleston, New York; Executive Committee: Dr. Paul D. White, Boston; Dr. Thomas Ordway, Albany, N. Y., and Dr. W. de B. MacNider, Chapel Hill, N. C.

Dr. Albert A. Epstein, New York, read a paper on "Thyroid Therapy and Thyroid Tolerance in Chronic Nephrosis." Discussed by Drs. Norman M. Keith, Rochester, Minn., and Albert A. Epstein, New York.

Dr. Samuel H. Watson, Tucson, Ariz., read a paper on "The Use and Abuse of Heliotherapy in Tuberculosis." Discussed by Drs. Charles E. Sevier, Colorado Springs, Colo.; I. D. Bronfin, Sanatorium, Colo.; Felix Baum, Denver; O. E. Egbert, El Paso, Texas; Victor Randolph, Phoenix, Ariz.; C. D. Spivak, Denver, and Samuel H. Watson, Tucson, Ariz.

Dr. H. Z. Giffin, Rochester, Minn., read a paper on "The Treatment of Polycythemia Vera." Discussed by Drs. C. L. Stealy, San Diego, Calif.; Joseph H. Pratt, Boston; J. A. McIntosh, Memphis, Tenn., and H. Z. Giffin, Rochester, Minn.

Drs. Fred M. Smith, Verne C. Graber and George H. Miller, Iowa City, presented a paper on "Action of Euphyllin in Cardiac Failure Associated with Arteriosclerosis." No discussion.

Dr. Emil Bogen, Los Angeles, read a paper on "Arachnidism, a Study in Spider Poisoning." No discussion.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Wednesday, April 21—Afternoon

The meeting was called to order at 2:15 by the chairman, Dr. Harry J. Corper, Denver.

Dr. Micheal G. Wohl, Omaha, read a paper on "Avitaminosis with Symptoms and Lesions of Beriberi Occurring During the Course of Diabetes: Report of Case." Discussed by Drs. Orlando H. Petty, Philadelphia; R. G. Hoskins, Columbus; Scott R. Edwards, Miami Beach, Fla.; Peter Bassoe, Chicago, and Michael G. Wohl, Omaha.

Dr. A. C. Nickel, Rochester, Minn., read a paper on "Localization in Animals of Bacteria Isolated from Foci of Infection." Discussed by Drs. Russell L. Haden, Kansas City, Mo.; Clyde Brooks, University, Ala.; William W. Duke, Kansas City, Mo.; James H. Huddelson, New York, and A. C. Nickel, Rochester, Minn.

Drs. John V. Barrow and E. L. Armstrong, Los Angeles, presented a paper on "The Etiology and Pathology of Arthritis Deformans as Forecast by Clinical Manifestations." Discussed by Drs. W. H. Olds, Los Angeles; Lloyd Mills, Los Angeles, and John V. Barrow, Los Angeles.

Dr. William W. Duke, Kansas City, Mo., read a paper on "Estimation of Circulating Hemoglobin Volume, a Simple, Practical Method for Clinical Purposes." Discussed by Drs. Clyde Brooks, University, Ala.; W. F. Singer, Pueblo, Colo., and William W. Duke, Kansas City, Mo.

Dr. James Herbert Mitchell, Chicago, read a paper on "Menace of the Slightly Positive Wassermann Reaction." Discussed by Drs. Udo J. Wile, Ann Arbor, Mich.; H. J. Corper, Denver; Michael G. Wohl, Omaha; Ralph E. Duncan, Kansas City, Mo.; C. E. Roderick, Battle Creek, Mich.; J. J. Moore, Chicago, and James Herbert Mitchell, Chicago.

Dr. Clyde Brooks, University, Ala., read a paper on "Conduction and Contraction of Cardiac Musculature in Water Rigor." Discussed by Drs. F. T. Rogers, Dallas, Texas; C. I. Reed, Dallas, Texas, and Clyde Brooks, University, Ala.

Dr. Josiah J. Moore, Chicago, secretary, presented the list of applicants for associate fellowships and moved its adoption. Motion seconded and unanimously carried.

Drs. Frank B. Young, Gering, Neb., and A. L. Cooper, Scottsbluff, Neb., presented a paper on "Evidences of Diseases as Shown in Fossil and Prehistoric Remains; Paleopathology." Discussed by Drs. H. W. Orr, Lincoln, Neb.; J. W. Draper, New York; E. S. Blaine, Chicago, and Frank B. Young, Gering, Neb.

Thursday, April 22—Afternoon

The meeting was called to order at 2:10 by the chairman.

Dr. Harry J. Corper, Denver, read the chairman's address, entitled "Absorption from Lower Respiratory Tract."

Dr. Mary E. Lapham, Highlands, N. C., read a paper on "Aspergillosis of the Lungs and Its Association with Tuberculosis." Discussed by Drs. Henry C. Sweany, Chicago; Kenneth M. Lynch, Dallas, Texas; Aldo Castellani, New Orleans, and Mary E. Lapham, Highlands, N. C.

Dr. Esmond R. Long, Chicago, read a paper on "Specific Necrosis in the Infectious Granulomas." Discussed by Drs. Harry J. Corper, Denver; Henry C. Sweany, Chicago, and Esmond R. Long, Chicago.

Dr. Henry C. Sweany, Chicago, read a paper on "Mutation Forms of the Tubercle Bacillus." Discussed by Drs. Esmond R. Long, Chicago; Harry J. Corper, Denver, and Henry C. Sweany, Chicago.

Dr. Aldo Castellani, New Orleans, read a paper on "The Importance of Symbiosis or Close Association of Different Species of Organisms in the Production of Certain Biochemical Phenomena and in the Causation of Certain Diseases and Certain Symptoms of Disease." No discussion.

Dr. J. A. McIntosh, Memphis, Tenn., read a paper on "A Study of Granuloma Inguinale." Discussed by Drs. Kenneth M. Lynch, Dallas, Texas; Samuel M. Peck, New York, and J. A. McIntosh, Memphis, Tenn.

Friday, April 23—Afternoon

The meeting was called to order at 2 o'clock by the chairman.

The following officers were elected: chairman, Dr. R. G. Hoskins, Columbus, Ohio; vice chairman, Dr. H. R. Wahl, Kansas City, Mo.; secretary, Dr. J. J. Moore, Chicago; delegate, Dr. D. J. Davis, Chicago; alternate, Dr. J. J. Moore, Chicago.

Drs. F. W. Hartman, Adolph Bolliger and H. P. Doub, Detroit, presented a paper on "Functional Studies Throughout the Course of Roentgen-Ray Nephritis in Dogs." Discussed by Drs. Norman M. Keith, Rochester, Minn.; J. W. Sherrill, La Jolla, Calif.; V. C. Myers, Iowa City, and F. W. Hartman, Detroit.

Drs. Frank Hinman and Francis H. Redewill, San Francisco, presented a paper on "The Mechanism of Pyelovenous Backflow." No discussion.

Dr. Francis Carter Wood, New York, presented a paper on "The Use of Colloidal Lead in the Treatment of Cancer." Discussed by Drs. George T. Caldwell, Dallas, Texas; E. C. Ernst, St. Louis, and Francis Carter Wood, New York.

Dr. Albert C. Broders, Rochester, Minn., read a paper on "Grading of Carcinoma and Its Practical Application." Discussed by Drs. J. Shelton Horsley, Richmond, Va., and W. C. Hueper, Chicago.

Dr. O. Jason Dixon, Kansas City, Mo., read a paper on "The Pathologic Findings in Cavernous Sinus Thrombosis as a Guide to the Diagnosis, Prognosis and Treatment." No discussion.

SECTION ON NERVOUS AND MENTAL DISEASES

Wednesday, April 21—Morning

The meeting was called to order at 9:15 by the chairman, Dr. James B. Ayer, Boston.

In the absence of Dr. Edwin G. Zabriskie, New York, the chairman appointed Dr. William House, Portland, Ore., to serve on the Executive Committee.

Dr. James B. Ayer, Boston, read the chairman's address, entitled "Analysis of Spinal Fluid Tests."

Dr. James H. Huddleson, New York, read a paper on "The Connotation of Constitutional Psychopathic Inferiority Without Psychoses: A Study of Five Hundred Diagnoses." Discussed by Drs. William House, Portland, Ore.; Sidney I. Schwab, St. Louis; Theodore Diller, Pittsburgh, and James H. Huddleson, New York.

Dr. Franklin G. Ebaugh, Denver, read a paper on "Neuropsychiatric Aspects of Chorea in Children." Discussed by Drs. George A. Moleen, Denver; Roy P. Forbes, Denver; Theodore Diller, Pittsburgh; Sidney I. Schwab, St. Louis, and Franklin G. Ebaugh, Denver.

Dr. Theodore Diller, Pittsburgh, read a paper on "The Social and Economic Aspects of Nervous and Mental Diseases." Discussed by Drs. J. S. Wilkins, Hot Springs, Ark.; Carl D. Camp, Ann Arbor, Mich.; Frank S. White, Wichita Falls, Texas; Gilbert E. Seaman, Milwaukee, and Theodore Diller, Pittsburgh.

Dr. Sidney I. Schwab, St. Louis, read a paper on "Cardiac Symptoms in Emotional Conflicts." Discussed by Drs. L. J. Manhoff, San Antonio, Texas; Lloyd Mills, Los Angeles; A. L. Skoog, Kansas City, Mo.; Theodore Diller, Pittsburgh, and Sidney I. Schwab, St. Louis.

Dr. M. S. Gregory, Oklahoma City, read a paper on "Some Infantile Factors in the Etiology of Hysteria." Discussed by Drs. Carl D. Camp, Ann Arbor, Mich., and M. S. Gregory, Oklahoma City.

Thursday, April 22—Morning

The meeting was called to order at 9:15 by the chairman.

The following officers were elected: chairman, William House, Portland, Ore.; vice chairman, George W. Hall, Chicago; secretary, Lewis J. Pollock, Chicago; delegate, Tom B. Throckmorton, Des Moines, Iowa; alternate, Edward Delehanty, Denver.

Dr. Tom. B. Throckmorton, Des Moines, Iowa, read a paper on "Glioma of the Pons Varolii Simulating a Frontomotor Tumor." Discussed by Drs. George A. Moleen, Denver; Peter Bassoe, Chicago; A. L. Skoog, Kansas City, Mo., and Tom. B. Throckmorton, Des Moines, Iowa.

Dr. Walter F. Schaller, San Francisco, read a paper on "An Unusual Case of Subacute Combined Cord Degeneration." Discussed by Drs. W. A. Jones, Minneapolis; George W. Hall, Chicago; Lewis J. Pollock, Chicago; George A. Moleen, Denver; A. L. Skoog, Kansas City, Mo.; James B. Ayer, Boston, and Walter F. Schaller, San Francisco.

Dr. A. L. Skoog, Kansas City, Mo., read a paper on "Neurologic Manifestations in Pernicious Anemia: A New Conception Relative to Etiology." Discussed by Drs. Walter F. Schaller, San Francisco, and A. L. Skoog, Kansas City, Mo.

Dr. Harry L. Parker, Rochester, Minn., read a paper on "Aneurysms of the Cerebral Vessels: The Clinical Manifestations and Pathology." Discussed by Drs. George W. Hall, Chicago; William House, Portland, Ore.; Edwin G. Zabriskie, New York, and Harry L. Parker, Rochester, Minn.

Dr. Walter D. Shelden, Rochester, Minn., read a paper on "Secondary Tumors of the Brain." Discussed by Drs. Peter Bassoe, Chicago; William House, Portland, Ore.; George W. Hall, Chicago; A. L. Skoog, Kansas City, Mo.; Harry L. Parker, Rochester, Minn., and Walter D. Sheldon, Rochester, Minn.

Friday, April 23—Morning

A joint meeting was held with the Section on Surgery, General and Abdominal. For a report of the proceedings, see the minutes of that section.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

Wednesday, April 21—Morning

The meeting was called to order at 9:10 by the chairman, Dr. Fred Wise, New York.

The chairman appointed Dr. Howard Morrow, San Francisco, to serve on the Executive Committee in the place of Dr. Harold N. Cole, Cleveland, who was absent.

Dr. Fred Wise, New York, read the chairman's address, entitled "Progress in the Treatment of Skin Diseases."

Drs. J. R. Driver, John A. Gammel and L. J. Karnosh, Cleveland, presented a paper on "The Use of Malarial Infection in the Treatment of Syphilis of the Central Nervous System." Discussed by Drs. William H. D. Goeckerman, Rochester, Minn.; Hans H. Reese, Madison, Wis., and J. R. Driver, Cleveland.

Dr. William H. Guy, Pittsburgh, read a paper on "Clinical Notes on the Incidence and Treatment of Interstitial Keratitis in Congenital Syphilis." Discussed by Drs. F. J. Eichenlaub, Washington, D. C.; John E. Lane, New Haven, Conn.; I. L. McGlasson, San Antonio, Texas; N. N. Epstein, Cleveland, and William H. Guy, Pittsburgh.

Drs. N. N. Epstein and J. E. Rauschkolb, Cleveland, presented a paper on "Further Observations on the Rose Bengal Test for Liver Function, with Particular Reference to Its Use in Therapy of Syphilis." Discussed by Drs. William J. Kerr, San Francisco; William H. D. Goeckerman, Rochester, Minn.; J. E. Rauschkolb, Cleveland; E. A. Purdum, Hot Springs, Ark., and N. N. Epstein, Cleveland.

Drs. Fred M. Jacob and L. G. Beinhauer, Pittsburgh, presented a paper on "Sodium Thiosulphate in Wassermann-Fast Syphilis: A Preliminary Report." Discussed by Drs. William H. Guy, Pittsburgh; William L. McBride, Kansas City, Mo.; R. E. Duncan, Kansas City, Mo., and Fred M. Jacob, Pittsburgh.

Drs. Jerome Kingsbury and S. M. Peck, New York, presented a paper on "Intravenous Administration of Antimony and Potassium Tartrate in Phagedenic Ulcerations of the Genitals." Discussed by Drs. Aldo Castellani, New Orleans; Howard Fox, New York, and S. M. Peck, New York.

Dr. H. G. Miskjian, Cleveland, read a paper on "An Efficient Treatment of Chancroidal Buboes: Injections of Mencière's Solution." Discussed by Drs. Herman L. Kretschmer, Chicago; J. E. Rauschkolb, Cleveland; Abraham Mattes, New Orleans, and H. G. Miskjian, Cleveland.

Thursday, April 22—Morning

The meeting was called to order at 9:10 by the chairman.

The secretary read the following report from the chairman of the committee appointed to study the subject of legislation in regard to injurious effects of hair dyes and cosmetics:

> Since the last meeting of this section there has been no official meeting of this committee. The committee has been in correspondence with its different members, however, with the American Medical Association central office and with Dr. Woodward.
>
> We have finally succeeded in gathering together a large number of reports from various parts of the country in regard to the injurious effects of these preparations.
>
> We then felt that it was necessary to find out from the literature what others had reported and also what legislation had thus far been passed, especially in some of the foreign countries where this study has been more thorough in its character.
>
> We were unable to get any grant for this purpose until a meeting of the Trustees in February, at which time a grant of $1,000 was given to our committee.
>
> Since then Dr. Woodward has been attempting to find the proper person who would be competent to make this investigation of the literature. We are hoping that this summer it can be carried out, most of it, of course, having to be done at the Surgeon-General's Library in Washington.
>
> In the meantime, we have nothing further to report except progress.
>
> Respectfully submitted.
>
> Harold N. Cole, Chairman.
> Francis E. Senear.
> Udo J. Wile.

Dr. Harry R. Foerster, Milwaukee, read a paper on "Sporotrichosis, an Occupational Dermatosis."

Dr. Isaac R. Pels, Baltimore, read a paper on "An Unusual Eruption Due to an Organism of the Sporotrichum Group."

These two papers were discussed by Drs. Aldo Castellani, New Orleans; Earl D. Crutchfield, Galveston, Texas; Howard King, Nashville, Tenn.; Harry R. Foerster, Milwaukee, and Isaac R. Pels, Baltimore.

Dr. Howard Fox, New York, read a paper on "Granuloma Inguinale: Its Prevalence in the United States." Discussed by Drs. Earl D. Crutchfield, Galveston, Texas; S. M. Peck, New York; Jeffrey C. Michael, Houston, Texas; I. L. McGlasson, San Antonio, Texas; Aldo Castellani, New Orleans, and Howard Fox, New York.

Drs. Joseph V. Klauder and M. J. Harkins, Philadelphia, presented a paper on "A Distinctive and Severe Form of Erysipeloid Among Fish Handlers: Report of Clinical and Laboratory Studies; Demonstration of the Bacillus of Swine Erysipelas."

Dr. I. L. McGlasson, San Antonio, Texas, read a paper on "Recurrent Erysipelas: Report of Cases."

These two papers were discussed by Drs. William H. Mook, St. Louis; Udo J. Wile, Ann Arbor, Mich.; Frederick D. Weidman, Philadelphia, and Joseph V. Klauder, Philadelphia.

Dr. Jeffrey C. Michael, Houston, Texas, read a paper on "Critical Investigation of the End-Products of Protein Metabolism in Eczema and Kindred Disorders." Discussed by Drs. Walter J. Highman, New York, and Samuel Ayers, Jr., Los Angeles.

Friday, April 23—Morning

The meeting was called to order at 9:15 by the chairman.

The following officers were elected: chairman, Dr. James Herbert Mitchell, Chicago; vice chairman, Dr. Frederick D. Weidman, Philadelphia; secretary, Dr. William H. Guy, Pittsburgh; delegate, Dr. Howard Fox, New York; alternate, Dr. Otto H. Foerster, Milwaukee.

Dr. John E. Lane, New Haven, Conn., brought up the question of continuing the scientific exhibit.

Dr. I. L. McGlasson, San Antonio, Texas, chairman of the committee, reported that one exhibitor had received a silver medal, and that another had received honorable mention, which he thought justified continuing the exhibit. Sufficient money had been collected to defray the expenses for this year, and a small balance to apply on next year's exhibit.

Dr. John E. Lane, New Haven, Conn., moved that the exhibit be continued, and that the appointment of a committee be left to the chairman, and the chairman of the Committee on Exhibit.

Motion seconded by Dr. William H. Guy, Pittsburgh, and unanimously carried.

Drs. George M. MacKee and J. J. Eller, New York, presented a paper on "Roentgen-Ray Idiosyncrasy." Discussed by Drs. I. L. McGlasson, San Antonio, Texas; F. W. Cregor, Indianapolis; John E. Lane, New Haven, Conn.; Henry J. Ullmann, Santa Barbara, Calif.; William H. Guy, Pittsburgh; Jeffrey C. Michael, Houston, Texas; Samuel Ayers, Jr., Los Angeles; J. J. Eller, New York, and George M. MacKee, New York.

Dr. William H. D. Goeckerman, Rochester, Minn., read a paper on "Bullous Ichthyosiform Erythroderma: Report of Two Cases." Discussed by Drs. Udo J. Wile, Ann Arbor, Mich.; F. W. Cregor, Indianapolis, and William H. D. Goeckerman, Rochester, Minn.

Dr. Francis E. Senear, Chicago, read a paper on "Progressive and Recurrent Dermatofibroma (Darier)." Discussed by Drs. Edward A. Oliver, Chicago; Frederick D. Weidman, Philadelphia, and Francis E. Senear, Chicago.

Drs. Frederick D. Weidman, Philadelphia, and Loren W. Shaffer, Detroit, presented a paper on "Calcification of the Epiderm and Other Structures of the Skin in Connection with Widespread Bone Resorption." Discussed by Drs. Joseph V. Klauder, Philadelphia; W. S. Thomas, Clifton Springs, N. Y., and Frederick D. Weidman, Philadelphia.

Dr. Walter J. Highman, New York, read a paper on "Some Aspects of Skin Histopathology." Discussed by Drs. Fredreick D. Weidman, Philadelphia; Fenton B. Turck, New York, and Walter J. Highman, New York.

Dr. L. M. Wieder, Ann Arbor, Mich., read a paper on "The Juvenile Type of Acanthosis Nigricans." Discussed by Drs. Fred Wise, New York; Udo J. Wile, Ann Arbor, Mich., and L. M. Wieder, Ann Arbor, Mich.

Dr. B. Barker Beeson, Chicago, read a paper on "Granulosis Rubra Nasi (Jadassohn): Report of Case." Discussed by Drs. John E. Lane, New Haven, Conn.; Walter J. Highman, New York, and B. Barker Beeson, Chicago.

Dr. Mitchell appointed, as a committee on exhibits, Drs. Fred D. Weidman, Philadelphia, chairman; F. J. Eichenlaub, Washington, D. C., and Clark W. Finnerud, Chicago.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

WEDNESDAY, APRIL 21—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Matthias Nicoll, Jr., Albany, N. Y.

Dr. J. J. Durrett, Memphis, Tenn., read a paper on "Some Problems in Southern Municipal Health Work." Discussed by Drs. A. H. Flickwir, Houston, Texas; A. T. McCormack, Louisville, Ky.; C. W. Goddard, Austin, Texas; W. S. Leathers, Nashville, Tenn., and J. J. Durrett, Memphis, Tenn.

Dr. Matthias Nicoll, Jr., Albany, N. Y., read the chairman's address, entitled "Boundaries of the Public Health Field."

Dr. B. F. Royer, Philadelphia, read a paper on "Trachoma." Discussed by Drs. A. T. McCormack, Louisville, Ky.; E. L. Spence, Kennett, Mo., and B. F. Royer, Philadelphia.

Dr. E. L. Bishop, Nashville, Tenn., read a paper on "The Sanitary Officer and County Health Work."

Dr. P. W. Covington, Salt Lake City, read a paper on "Rural Sanitation."

These two papers were discussed by Drs. A. T. McCormack, Louisville, Ky.; D. T. Bowden, Oklahoma City; W. S. Leathers, Nashville, Tenn.; E. L. Bishop, Nashville, Tenn., and P. W. Covington, Salt Lake City.

THURSDAY, APRIL 22—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

Dr. James Stewart, Jefferson City, Mo., read a paper on "Public Health Aspects of Quackery." Discussed by Drs. G. S. Luckett, Santa Fe, N. M.; I. D. Rawlings, Springfield, Ill.; T. W. Buford, Minter, Texas, and James Stewart, Jefferson City, Mo.

Dr. Mazyck P. Ravenel, Columbia, Mo., read a paper on "The Trend of Public Health Work: Is it Eugenic or Dysgenic?" Discussed by Drs. John A. Ferrell, New York; G. M. Anderson, Cheyenne, Wyo.; A. S. Garrett, Weatherford, Texas; H. I. Gosline, Dallas, Texas, and Mazyck P. Ravenel, Columbia, Mo.

Dr. G. S. Luckett, Sante Fe, N. M., read a paper on "Relationship of the Practicing Physician to the Public Health Program." Discussed by Drs. G. M. Anderson, Cheyenne, Wyo.; Carl Puckett, Oklahoma City, and G. S. Luckett, Sante Fe, N. M.

Dr. Mary Evelyn Brydon, Richmond, Va., read a paper on "The Family Physician's Place in Inspection of School Children." Discussed by Drs. Winnie M. Sanger, Oklahoma City; H. I. Gosline, Dallas, Texas; F. J. Underwood, Jackson, Miss., and Mary Evelyn Brydon, Richmond, Va.

Dr. Wilmer R. Batt, Washington, D. C., read a paper entitled "Every State in the Registration Area Before 1930." No discussion.

FRIDAY, APRIL 23—AFTERNOON

The meeting was called to order at 2 o'clock by Dr. H. O. Sappington, Austin, Texas.

Dr. W. L. Aycock, Boston, read a paper on "The Epidemiology of Poliomyelitis with Reference to Its Mode of Spread." Discussed by Drs. J. P. Leake, Washington, D. C.; W. L. Holt, Little Rock, Ark.; I. D. Rawlings, Springfield, Ill.; A. C. Nickel, Rochester, Minn.; W. F. Draper, Washington, D. C., and W. L. Aycock, Boston.

Dr. J. W. Tappan, El Paso, Texas, read a paper on "Protective Health Measures on the United States-Mexico Border." Discussed by Drs. Felix P. Miller, El Paso, Texas; Malone Duggan, La Feria, Texas; Oscar Dowling, Shreveport, La.; L. H. Martin, Fort Worth, Texas, and J. W. Tappan, El Paso, Texas.

The following officers were elected: chairman, Dr. W. F. Draper, Washington, D. C.; vice chairman, Dr. I. D. Rawlings, Springfield, Ill.; secretary, Dr. E. L. Bishop, Nashville, Tenn.; alternate delegate, Dr. George H. Bigelow, Boston.

SECTION ON UROLOGY

WEDNESDAY, APRIL 21—AFTERNOON

The meeting was called to order at 2:10 by the chairman, Dr. B. A. Thomas, Philadelphia.

The chairman appointed Dr. Robert V. Day, Los Angeles, to serve on the Executive Committee in the place of Dr. John T. Geraghty, deceased.

Dr. A. J. Scholl, Jr., Los Angeles, read a paper on "Postnuptial Urinary Infection."

Dr. Winfield Scott Pugh, New York, read a paper on "Stricture of the Female Urethra."

These two papers were discussed by Drs. W. E. Stevens, San Francisco; W. F. Braasch, Rochester, Minn.; Victor G. Vecki, San Francisco; Herman L. Kretschmer, Chicago; Bransford Lewis, St. Louis; T. Leon Howard, Denver; Alfred I. Folsom, Dallas, Texas, and W. S. Pugh, New York.

Dr. Russell A. Hennessey, Memphis, Tenn., read a paper on "Leukoplakia of the Bladder."

Dr. D. K. Rose, St. Louis, read a paper on "Cystometric Determination of Bladder Pressure—Presentation of Instrument."

These two papers were discussed by Drs. George R. Livermore, Memphis, Tenn.; Evarts A. Graham, St. Louis; Daniel N. Eisendrath, Chicago; W. E. Stevens, San Francisco; J. L. Morgan, Memphis, Tenn.; Herman L. Kretschmer, Chicago; W. F. Braasch, Rochester, Minn.; Russell A. Hennessey, Memphis, Tenn., and D. K. Rose, St. Louis.

Dr. Maximilian Stern, New York, read a paper on "Resection of Obstructions at the Vesical Orifice: A New Cystoscopic Instrument Employing a Cutting Current Capable of Operation in a Water Medium."

Drs. Harry W. Martin and Rachel E. Arbuthnot, Los Angeles, presented a paper on "Spinal Anesthesia: A Review of More than Six Thousand Cases in the Los Angeles General Hospital, with Especial Consideration for Urologic Operations."

These two papers were discussed by Drs. Robert V. Day, Los Angeles; A. C. Gilbert, Dallas, Texas; W. W. Babcock, Philadelphia; Arthur L. Chute, Boston; Albert E. Goldstein, Baltimore, and Harry W. Martin, Los Angeles.

The secretary said that he had received a letter from Dr. Walter E. Brunet, secretary of the American Social Hygiene Association, in regard to establishing a scientific exhibit on gonorrhea, stating that if the Section on Urology did not care to do this, the matter would be taken up by the American Social Hygiene Association.

Dr. Robert V. Day, Los Angeles, moved that the chairman appoint a committee of three to investigate the matter of having a scientific exhibit by the section and to report on Friday with recommendation. Motion seconded and carried.

The chairman appointed a committee consisting of Drs. W. E. Stevens, San Francisco; Budd Corbus, Chicago, and Alfred I. Folsom, Dallas, Texas.

Thursday, April 22—Afternoon

The meeting was called to order at 2:10 by the chairman.

Dr. B. A. Thomas, Philadelphia, read the chairman's address, entitled "Influence of Urology on Longevity."

Dr. W. F. Braasch, Rochester, Minn., read a paper on "Prognosis in Chronic Pyelonephritis." Discussed by Drs. C. E. Burford, St. Louis; Daniel N. Eisendrath, Chicago; Hugh H. Young, Baltimore; Herman L. Kretschmer, Chicago; Albert E. Goldstein, Baltimore; Abraham Mattes, New Orleans; Alfred I. Folsom, Dallas, Texas and W. F. Braasch, Rochester, Minn.

The following papers were read as a symposium on "The Treatment of Bladder Carcinoma":

Dr. E. Starr Judd, Rochester, Minn: "Treatment of Carcinoma of the Bladder by Radical Surgery."

Dr. Alfred I. Folsom, Dallas, Texas: "Radium Treatment of Carcinoma of the Bladder."

Dr. Charles Alexander Waters, Baltimore: "Deep Roentgen-Ray Therapy in Bladder Tumors."

Dr. Arthur L. Chute, Boston: "Ureteral Transplantation in Bladder Carcinoma: Technic and Utility."

These four papers were discussed by Drs. Bransford Lewis, St. Louis; Daniel N. Eisendrath, Chicago; Nelse F. Ockerblad, Kansas City, Mo.; James F. Percy, Los Angeles; Howard L. Cecil, Dallas, Texas; George Gilbert Smith, Boston; Robert V. Day, Los Angeles; A. J. Crowell, Charlotte, N. C.; T. Leon Howard, Denver; P. E. McCown, Indianapolis, and Arthur L. Chute, Boston.

Friday, April 23—Afternoon

The meeting was called to order at 2:10 by the chairman.

The following officers were elected: chairman, Dr. George Gilbert Smith, Boston; vice chairman, Dr. Alfred I. Folsom, Dallas, Texas; secretary, Dr. Hermon C. Bumpus, Rochester, Minn.

Dr. W. E. Stevens, San Francisco, reported that the committee had discussed with the members of the section the question of a scientific exhibit on gonorrhea, and that the consensus was that the section should cooperate with a committee from the American Social Hygiene Association. The committee so recommended.

Dr. W. E. Stevens, San Francisco, moved that the chairman discharge the temporary committee and appoint a permanent committee to cooperate with the American Social Hygiene Association, one member to be from New York. Motion seconded and carried.

The chairman appointed a committee consisting of Drs. Francis R. Hagner, Washington, D. C., chairman; E. L. Keyes, New York, and Alexander Randall, Philadelphia.

Dr. Clinton K. Smith, Kansas City, Mo., read a paper on "A Ureteropyelographic Postmortem Study of Infants and Children: Its Relation to Urinary Pathology in Adults and Practical Application to Urology in Children."

Dr. Abraham Mattes, New Orleans, read a paper on "Bilateral Pyelo-Ureterograms."

These two papers were discussed by Drs. W. E. Stevens, San Francisco; Alfred I. Folsom, Dallas, Texas; Albert E. Goldstein, Baltimore; Nelse F. Ockerblad, Kansas City, Mo.; I. G. Duncan, Memphis, Tenn.; Daniel N. Eisendrath, Chicago; W. J. Wallace, Oklahoma City; Herman L. Kretschmer, Chicago; A. J. Crowell, Charlotte, N. C.; Robert V. Day, Los Angeles; George R. Livermore, Memphis, Tenn.; Benjamin A. Thomas, Philadelphia; Clinton K. Smith, Kansas City, Mo., and Abraham Mattes, New Orleans.

Dr. Herman L. Kretschmer, Chicago, read a paper on "Preoperative Diagnosis of Horseshoe Kidney."

Dr. William E. Stevens, San Francisco, read a paper on "Diagnosis of Renal Tuberculosis."

These two papers were discussed by Drs. W. Calhoun Stirling, Washington, D. C.; Nelse F. Ockerblad, Kansas City, Mo.; Daniel N. Eisendrath, Chicago; Felix Baum, Denver; T. Leon Howard, Denver, and William E. Stevens, San Francisco.

Dr. C. E. Burford, St. Louis, read a paper on "Nephropexy for Relief of Ureteral Kinks Associated with Ptosis."

Dr. Nelse F. Ockerblad, Kansas City, Mo., read a paper on "Stricture of the Ureter in Males."

These two papers were discussed by Drs. Albert E. Goldstein, Baltimore; C. E. Burford, St. Louis, and Nelse F. Ockerblad, Kansas City, Mo.

SECTION ON ORTHOPEDIC SURGERY

Wednesday, April 21—Afternoon

The meeting was called to order at 2:10 by the chairman, Dr. Frank R. Ober, Boston.

The chairman appointed Dr. Arthur Steindler, Iowa City, to serve on the Executive Committee in the absence of Dr. Henry B. Thomas, Chicago.

Dr. W. K. West, Oklahoma City, read a paper on "Fractures of the Shaft of the Femur." Discussed by Drs. H. W. Orr, Lincoln, Neb.; John Dunlop, Los Angeles; H. G. Hill, Memphis, Tenn.; J. P. Lord, Omaha; John Wilson, Los Angeles; C. S. Venable, San Antonio, Texas; N. T. Kirk, Fort Sam Houston, Texas, and W. K. West, Oklahoma City.

Dr. Emil S. Geist, Minneapolis, read a paper on "Removing Splints and Braces from the Patient." Discussed by Drs. Henry W. Meyerding, Rochester, Minn., and F. J. Gaenslen, Milwaukee.

Dr. Ralph Pemberton, Philadelphia, read a paper on "Etiology and Pathology of Arthritis." Discussed by Drs. Frank R. Ober, Boston; Walter G. Stern, Cleveland; C. L. Lowman, Los Angeles; Philip H. Kreuscher, Chicago; Barney Brooks, Nashville, Tenn., and Ralph Pemberton, Philadelphia.

Dr. M F. Arbuckle, St. Louis, read a paper on "Paranasal Cell Infection as a Cause of Infectious Arthritis." Discussed by Dr. W. K. West, Oklahoma City.

Dr. Walter G. Stern, Cleveland, read a paper on "The Value of the Intracutaneous Salt Solution Test in Circulatory Disturbances of the Lower Extremities." Discussed by Dr. Barney Brooks, Nashville, Tenn.; F. J. Gaenslen, Milwaukee, and Walter G. Stern, Cleveland.

Dr. Ralph K. Ghormley, Boston, read a paper on "Heliotherapy with Reference to the Treatment of Tuberculosis of the Spine. Discussed by Drs. Willis C. Campbell, Memphis, Tenn.; W. B. Carrell, Dallas, Texas; Jeremiah Metzger, Tucson, Ariz.; Charles E. Sevier, Colorado Springs, Colo., and Ralph K. Ghormley, Boston.

Dr. C. L. Lowman, Los Angeles, read a paper on "The Rôle of Iliolumbar Ligaments in Low Back Strain Cases." Discussed by Drs. Emil S. Geist, Minneapolis; C. A. Parker, Chicago, and Arthur Steindler, Iowa City.

The following resolution was introduced by Dr. H. W. Orr, Lincoln:

> The Section on Orthopedic Surgery desires to urge that, in its consideration of the matter of medical expert testimony in civil and criminal cases in our courts, due attention be given to the matter of expert testimony in cases involving damages or compensation in industrial and other injury cases.

Dr. Orr moved that the resolution be referred to the House of Delegates for adoption. Motion seconded and carried.

Thursday, April 22—Afternoon

The meeting was called to order at 2:05 by the chairman.

It was moved, seconded and carried that the Executive Committee be given power to appoint one member on a committee of three to arrange for a fracture exhibit next year, also a symposium on fractures.

Dr. Earl D. McBride, Oklahoma City, read a paper on "Dislocation of the Carpal Semilunar Bone." Discussed by Drs. F. J. Gaenslen, Milwaukee; Philip H. Kreuscher, Chicago; James R. Bost, Houston, Texas; Charles F. Clayton, Fort Worth, Texas, and Earl D. McBride, Oklahoma City.

Drs. Frank D. Dickson and Rex L. Diveley, Kansas City, Mo., presented a paper on "A New Operation for the Correction of Moderate Claw Foot." Discussed by Drs. Willis C. Campbell, Memphis, Tenn.; Henry W. Meyerding, Rochester, Minn.; C. L. Lowman, Los Angeles, and Rex L. Diveley, Kansas City, Mo.

Dr. Frank R. Ober, Boston, read the chairman's address, entitled "Diagnosis in Orthopedic Surgery."

Dr. Henry W. Meyerding, Rochester, Minn., read a paper on "The Differential Diagnosis of Bone Tumors." Discussed by Drs. Joseph C. Bloodgood, Baltimore, and E. C. Ernst, St. Louis.

Dr. C. A. Stone, St. Louis, read a paper on "Ossifying Hematoma." Discussed by Drs. Sam Webb, Jr., Dallas, Texas; Walter G. Stern, Cleveland, and C. A. Stone, St. Louis.

Dr. John P. Lord, Omaha, read a paper on "Treatment of Contractures at the Knees." Discussed by Drs. C. A. Parker, Chicago; Earl D. McBride, Oklahoma City, and John P. Lord, Omaha.

Dr. P. A. McIlhenny, New Orleans, read a paper on "Orthopedic Problems of Leprosy." Discussed by Drs. O. E. Denney, Carville, La., and Ralph Hopkins, New Orleans.

Friday, April 23—Afternoon

The meeting was called to order at 2 o'clock by the chairman.

The following officers were elected: chairman, Dr. John P. Lord, Omaha; vice chairman, Dr. J. Archer O'Reilly, St. Louis; secretary, Dr. Henry W. Meyerding, Rochester, Minn.; delegate, Dr. H. W. Orr, Lincoln, Neb.; alternate, Dr. H. B. Thomas, Chicago.

Dr. H. W. Orr, Lincoln, Neb., made a brief report on his attendance at the House of Delegates, reporting that the resolution offered Wednesday afternoon was accepted by the reference committee and that it framed its report in such a way as to cover the objects aimed at in the resolution.

A vote of thanks was extended the Texas Orthopedic Club for its hospitality during the meeting.

Dr. J. Albert Key, St. Louis, read a paper on "Some Diagnostic Problems Presented by the Hip in Early Life." Discussed by Drs. Ralph H. Ghormley, Boston; Le Roy C. Abbott, St. Louis; Ben L. Schoolfield, Dallas, Texas; C. B. Francisco, Kansas City, Mo., and J. Albert Key, St. Louis.

Dr. Le Roy C. Abbott, St. Louis, read a paper on "Common Hip Joint Diseases." Discussed by Drs. H. W. Orr, Lincoln, Neb.; E. C. Bull, San Francisco; J. P. Lord, Omaha, and Le Roy C. Abbott, St. Louis.

Dr. J. S. Speed, Memphis, Tenn., read a paper on "Reconstruction of the Hip Joint." Discussed by Drs. Henry W. Meyerding, Rochester, Minn.; Fred H. Albee, New York; Arthur Steindler, Iowa City; Ben L. Schoolfield, Dallas, Texas, and J. S. Speed, Memphis, Tenn.

Dr. Eslie Asbury, Cincinnati, read a paper on "A Study of Spondylolisthesis with Especial Reference to the Cauda Equina." Discussed by Drs. Henry W. Meyerding, Rochester, Minn.; John Dunlop, Los Angeles; J. T. Watkins, San Francisco, and Eslie Asbury, Cincinnati.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

Wednesday, April 21.—Morning

The meeting was called to order at 9 o'clock by the chairman, Dr. Sidney K. Simon, New Orleans.

Dr. Jacob E. Meengs, Grand Rapids, Mich., read a paper on "The Value of the String Test in Cases of Gastric and Duodenal Ulcer." Discussed by Drs. Julius Friedenwald, Baltimore, and Jacob E. Meengs, Grand Rapids, Mich.

Dr. Roger S. Hubbard, Clifton Springs, N. Y., read a paper on "The Alkaline Tide in Achlorhydria." No discussion.

Dr. George B. Eusterman, Rochester, Minn., read a paper on "Gastric Cancer: Present Status of Diagnosis and Prognosis." No discussion.

Dr. Russell S. Boles, Philadelphia, read a paper on "Hodgkin's Disease of the Abdominal Type: Report of a Group of Cases." Discussed by Drs. George P. Muller, Philadelphia; Frank Wright, Chicago; Herbert Hill, San Antonio, Texas; John M. Blackford, Seattle, and Russell S. Boles, Philadelphia.

Dr. J. Rawson Pennington, Chicago, read a paper on "Hemorrhoids." Discussed by Drs. Jerome M. Lynch, New York; Joseph E. Rowan, Wichita, Kan.; Curtice Rosser, Dallas, Texas; Louis Buie, Rochester, Minn.; Andre L. Stapler, Chicago; Alton Ochsner, Madison, Wis., and J. Rawson Pennington, Chicago.

Dr. Curtice Rosser, Dallas, Texas, read a paper on "Clinical Variations in Negro Proctology: The Venereal Factor." Discussed by Drs. J. Rawson Pennington, Chicago; J. F. Montague, New York; Jerome M. Lynch, New York, and Curtice Rosser, Dallas, Texas.

Drs. Julius Friedenwald, Baltimore, and Curtice Rosser, Dallas, Texas, were appointed on the Executive Committee in the absence of Drs. Franklin W. White, Boston, and Ralph W. Jackson, Fall River, Mass.

Thursday, April 22—Morning

The meeting was called to order at 9 o'clock by the chairman.

Dr. Sidney K. Simon, New Orleans, read the chairman's address, entitled "The Teaching of Gastro-Enterology in Our Medical Schools."

Dr. John W. Draper, New York, read a paper on "Congenital Abnormalities of the Omentum in Relation to Gastro-Intestinal Disease." Discussed by Drs. John A. Lichty, Clifton Springs, N. Y., and John W. Draper, New York.

Dr. Edmund Jacobson, Chicago, read a paper on "Spastic Esophagus and Mucous Colitis: Studies in the Etiology and the Treatment by Progressive Relaxation." Discussed by Drs. Russell Boles, Philadelphia; Frank Smithies, Chicago; John W. Draper, New York, and Edmund Jacobson, Chicago.

Dr. Julius Friedenwald, Baltimore, read a paper on "Epigastric Hernia, with Especial Reference to Its Diagnostic Importance in Gastro-Intestinal Affections." Discussed by Drs. John A. Lichty, Clifton Springs, N .Y.; John Phillips, Cleveland, and John J. Gilbride, Philadelphia.

Dr. J. F. Montague, New York, read a paper on "The Clinical Effects of Abnormalities in the Portal Circulation on the Gastro-Intestinal Tract." Discussed by Drs. J. Rawson Pennington, Chicago, and J. F. Montague, New York.

Dr. E. C. Dudley, Chicago, read a paper on "The Treatment of the Psychoneuroses by the Removal of Focal Infections, with Especial Reference to Colectomy and Cecocolectomy." Discussed by Drs. John W. Draper, New York; L. L. Stanley, San Rafael, Calif., and A. H. Coleman, Clinton, N. J.

Dr. W. Howard Barber, New York, read a paper on "Cholecystitis and Its Relation to Pancreatitis." Discussed by Drs. Frank Smithies, Chicago, and John J. Gilbride, Philadelphia.

Dr. John J. Gilbride, Philadelphia, read a paper on "Cholecystography: Its Interpretation and Clinical Application." Discussed by Drs. E. Starr Judd, Rochester, Minn.; George B. Eusterman, Rochester, Minn.; W. H. Olmstead, St. Louis, and John A. Lichty, Clifton Springs, N. Y.

Friday, April 23—Morning

The meeting was called to order at 9 o'clock by the chairman.

The following officers were elected: chairman, Jerome M. Lynch, New York; vice chairman, Joseph Sailer, Philadelphia; secretary, George Eusterman, Rochester, Minn.; delegate, Frank Smithies, Chicago; alternate, Louis A. Buie, Rochester, Minn.

Dr. Kenneth M. Lynch, Dallas, Texas, read a paper on "A Clinical Analysis of Intestinal Flagellate Infection."

Discussed by Drs. Aldo Castellani, New Orleans; John Barrow, Los Angeles; Louis A. Buie, Rochester, Minn.; W. S. Thomas, Clifton Springs, N. Y.; M. D. Levy, Houston, Texas; Frank Smithies, Chicago; Sidney K. Simons, New Orleans, and Kenneth M. Lynch, Dallas, Texas.

Dr. Louis A. Buie, Rochester, Minn., read a paper on "Chronic Ulcerative Colitis." Discussed by Drs. John Blackford, Seattle; E. C. Fishbaugh, Los Angeles; H. G. Walcott, Dallas, Texas; Frank Smithies, Chicago, and Louis A. Buie, Rochester, Minn.

Dr. Sara M. Jordan, Boston read a paper on "Calcium, Carbon Dioxide and Chloride Content of Venous Blood in Cases of Gastric Ulcer Treated with Alkalis." Discussed by Dr. George B Eusterman, Rochester, Minn.; Victor C. Myers, Ph.D., Iowa City; and Drs. John A. Lichty, Clifton Springs, N. Y., and Sara M. Jordan, Boston.

Dr. I. R. Jankelson, Boston, read a paper on "Cardio-Esophageal Relaxation." Discussed by Drs. Frank Smithies, Chicago, and George B. Eusterman, Rochester, Minn.

Dr. E. C. Fishbaugh, Los Angeles, read a paper on "Duodenal Stagnation." Discussed by Drs. Tate Miller, Dallas, Texas; A. J. Potthost, San Antonio, Texas, and E. C. Fishbaugh, Los Angeles.

SECTION ON RADIOLOGY

Wednesday, April 21—Morning

The meeting was called to order at 9 o'clock by the chairman, Dr. A. C. Christie, Washington, D. C.

Dr. Ralph S. Bromer, Philadelphia, read a paper on "Infectious Osteomyelitis: Differential Diagnosis."

Dr. D. Y. Keith, Louisville, Ky., read a paper on "Typhoid Periostitis and Osteitis."

These two papers were discussed by Drs. Albert Soiland, Los Angeles; Henry W. Meyerding, Rochester, Minn.; Edward S. Blaine, Chicago; Ralph S. Bromer, Philadelphia, and D. Y. Keith, Louisville, Ky.

Dr. Amédée Granger, New Orleans, read a paper entitled "New Position for Making Roentgenogram of the Mastoid" Discussed by Drs. Bertram C. Cushway, Chicago; Byron Jackson, Scranton, Pa.; R. H. Lafferty, Charlotte, N. C.; W. F. Manges, Philadelphia; E. H. Skinner, Kansas City, Mo.; William F. Braasch, Rochester, Minn., and Amédée Granger, New Orleans.

Drs. Daniel N. Eisendrath and Irvin S. Koll, Chicago, presented a paper on "Renal and Other Retroperitoneal Tumors: Value of Radiography and Supplementary Methods." Discussed by Drs. Felix Baum, Denver; C. A. Waters, Baltimore; Samuel Brown, Cincinnati; P. M. Hickey, Ann Arbor, Mich., and Daniel N. Eisendrath, Chicago.

Dr. Bundy Allen, Iowa City, read a paper on "The Value of the Pyelogram and Cystogram in Abdominal Diagnosis from the Standpoint of the Roentgenologist." Discussed by Drs. L. R. Sante, St. Louis; Frank Hinman, San Francisco; N. F. Ockerblad, Kansas City, Mo., and Bundy Allen, Iowa City.

Dr. Lloyd Bryan, San Francisco, read a paper on "Gastric Retention of Vegetable Matter." Discussed by Drs. W. W. Watkins, Phoenix, Ariz., and Lloyd Bryan, San Francisco.

Thursday, April 22—Morning

The meeting was called to order at 9 o'clock by the chairman.

Dr. Willis F. Manges, Philadelphia, read a paper on "Pathologic Changes in Lung Tissue as the Result of Foreign Bodies of Long Sojourn." Discussed by Drs. P. M. Hickey, Ann Arbor; L. R. Sante, St. Louis, and Willis F. Manges, Philadelphia.

Dr. L. R. Sante, St. Louis, read a paper on "Pleural Effusions, General and Local: Their Recognition, Localization and Differential Diagnosis." Discussed by Drs. E. S. Blaine, Chicago; Samuel Brown, Cincinnati; Felix Baum, Denver, and L. R. Sante, St. Louis.

Drs. James T. Case and W. O. Upson, Battle Creek, Mich., presented a paper on "Roentgenologic Aspects of Various Types of Hernia." Discussed by Drs. James C. Masson, Rochester, Minn., and James T. Case, Battle Creek, Mich.

Dr. Benjamin H. Orndoff, Chicago, read a paper on "Roentgen-Ray Studies of the Appendix, Cecum and Ascending Colon." Discussed by Drs. H. J. Ullmann, Santa Barbara, Calif ; I. D. Bronfin, Sanatorium, Colo.; E. H. Skinner, Kansas City, Mo., and Benjamin H. Orndoff, Chicago.

Drs. Frank E. Simpson and Roy E. Flesher, Chicago, presented a paper on "Radon (Radium Emanation) as a Palliative Agent in the Treatment of Intra-Oral Cancer." Discussed by Drs. Albert Soiland, Los Angeles; Sanford M. Withers, Denver; J. M. Martin, Dallas, Texas, and Roy E. Flesher, Chicago.

Drs. Montrose T. Burrows and Edwin C. Ernst, St. Louis, presented a paper on "The Relation Between the Effect of the Roentgen Ray and Vitamins on the Organism." Discussed by Drs. Francis Carter Wood, New York; H. J. Ullmann, Santa Barbara, Calif.; L. H. Jorstad, St. Louis, and Edwin C. Ernst, St. Louis.

Friday, April 23—Morning

The meeting was called to order at 9 o'clock by the chairman.

Dr. Curtis F. Burnam, Baltimore, read a paper on "Hodgkin's Disease and Lymphosarcoma, with Especial Reference to Their Theatment by Radiation." Discussed by Drs. Albert Soiland, Los Angeles; Moses Barron, Minneapolis; Samuel Brown, Cincinnati; Benjamin H. Orndoff, Chicago; J. F. Herrick, Ottumwa, Iowa; E. C. Samuel, New Orleans; P. M. Hickey, Ann Arbor, Mich.; Edwin C. Ernst, St. Louis; Ralph E. Myers, Oklahoma City, and Curtis F. Burnam, Baltimore.

Dr. W. S. Lawrence, Memphis, Tenn., read a paper on "Surgical Diathermy as an Aid to Radiotherapy in the Treatment of Malignancy, with Especial Reference to Malignancy Within the Mouth." Discussed by Drs. Grant E. Ward, Baltimore; J. M. Martin, Dallas, Texas, and W. S. Lawrence, Memphis, Tenn.

Dr. Henry Schmitz, Chicago, read a paper on "The Treatment of Inoperable Carcinomas of the Urinary Bladder with Roentgen Rays." Discussed by Drs. C. F. Burnam, Baltimore; W. S. Lawrence, Memphis, Tenn.; Grant E. Ward, Baltimore, and Henry Schmitz, Chicago.

Dr. James A. Corscaden, New York, read a paper on "The Psychoneuroses of the Artificial Menopause." Discussed by Drs. Henry Schmitz, Chicago; R. H. Crockett, San Antonio, Texas, and James A. Corscaden, New York.

Drs. Ethel D. Humphrys, Sanford M. Withers and John R. Ranson, Denver, presented a paper on "Shortening the Quarantine Period for Diphtheria Convalescents and Carriers." Discussed by Drs. P. M. Hickey, Ann Arbor, Mich., and Sanford M. Withers, Denver.

Drs. E. C. Samuel and H. N. Blum, New Orleans, presented a paper on "Roentgen-Ray Therapy of Exudative Iritis." Discussed by Drs. Byron Jackson, Scranton, Pa.; M. W. Kapp, San Jose, Calif., and E. C. Samuel, New Orleans.

The following officers were elected: chairman, Dr. Albert Soiland, Los Angeles; vice chairman, Dr. E. C. Samuel, New Orleans; secretary, Dr. Frederick M. Hodges, Richmond, Va.; delegate, Dr. James T. Case, Battle Creek, Mich.; alternate, Dr. E. H. Skinner, Kansas City, Mo.

Primitive Medicine and Scientific Medicine.—The magical and religious categories of primitive medicine frequently crop up throughout later history, dominating the picture in the middle ages, and occurring sporadically even in modern times; for example, in Heinroth's doctrine that mental disorder is due to sin and in the present-day conceptions of Christian science. But they lie altogether outside the path of development of scientific medicine, and our only interest here is in the gradual evolution of the category of natural causes.—Hart, Bernard: *Lancet* **1:**587 (March 20) 1926.

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SATURDAY, MAY 8, 1926

THE THERAPEUTIC USE OF OXYGEN

The use of gaseous oxygen for therapeutic purposes, while not a novelty, has fallen into apparent disrepute and consequent disuse. The oxygen cylinder of two decades ago is no longer seen at the bedside of those who are desperately ill. This outcome is due in part to a changed view with respect to the functions of oxygen. The theory of "suboxidation" in the body has undergone some radical revisions. Yet there can be little doubt that anoxemia is an actual possibility in human practice. It may occur after hemorrhage and in anemia; it may follow the restriction of a free influx of air into the lungs; and it is a demonstrable symptom in many cases of lobar pneumonia. Under such circumstances the menace of inadequate "arterialization" of the blood occurs with a consequent burden on the cardiorespiratory and central nervous systems. There is accordingly a rational basis for administration of oxygen;[1] but it does not consist in the exhibition of a few whiffs of the gas through a funnel held in front of a patient's face. Ordinarily, the inspired air contains approximately 21 per cent of oxygen. It requires a decided increment of the latter in the air intake to produce effective gains by diffusion through the lungs into the pulmonary capillaries. To be of therapeutic potency, oxygen should be administered at an optimal concentration, which has lately been proposed at about 40 per cent of the inspired air. This was impossible of attainment in the older procedures.

Improvement came with the development of special apparatus to insure inspiration of higher concentrations of oxygen when it was desired. Barach[2] has recently reviewed the history of these efforts. The effective administration of oxygen apparently began in 1917, when the Haldane apparatus was used in the treatment of acute pulmonary edema of war gas poisoning. During the same year, Meltzer reported the successful use of the oral insufflation apparatus. In 1921, Barach and Woodwell described a rebreathing apparatus for cases of pneumonia and cardiac insufficiency. Henderson, in 1922, described an apparatus employed in resuscitation from gas poisoning, and suggested its use in pneumonia. Since 1921, oxygen chambers have been used by Barcroft and Poulton in England and by Stadie and Binger in this country. A bed tent was described by Hill, a head tent by Roth, and recently a portable oxygen tent by Barach and Binger. The nasal catheter was introduced during the war and has been widely used since then. In recent tests of some of the procedures of administering oxygen at the Presbyterian Hospital, New York, Barach[2] ascertained the oxygen concentration of the nasopharyngeal air, and calculated the oxygen concentration of the inspired air, and the arterial oxygen saturation before and after treatment. The tube and funnel method at its maximum efficiency raises the air in the nasopharynx to 22 per cent, and may be considered almost useless as a therapeutic agent. With oxygen administered at 2 liters per minute, the inspired air has an oxygen concentration of approximately 24 per cent. The nasal catheter may vary in its effectiveness to the extent that the nasopharyngeal air may contain between 22 and 35 per cent of oxygen, depending largely on the rate of administration of oxygen from the tank. When catheter oxygen treatment is carried out at its maximum efficiency, there is apt to be considerable increase in the oxygen saturation of the arterial blood, particularly in the mild and moderate cases of oxygen want. For the relief of severe arterial anoxemia, higher concentrations of oxygen than this method affords appear to be necessary. According to Barach, rebreathing apparatus with the use of a specially constructed glass nosepiece is the most efficient of the easily portable types of apparatus and in most cases causes little discomfort to the patient. Observations on the arterial blood confirm the effectiveness of the method. The portable oxygen tent as devised by Binger and Barach was used in the majority of cases treated. It secured an oxygen-rich atmosphere susceptible of regulation at the precise concentration desired. It accomplished adequate removal of carbon dioxide, moisture and heat, and was comfortable for the patient to live in, except in warm weather.

In an earlier issue of The Journal,[3] the favorable outlook, under the improved technic, for a usefulness of oxygen therapy in pneumonia was mentioned. The latest report[2] supports the former impressions. Treatment in the oxygen tent appears promising. Gravely ill patients are likely to show clinical signs of improvement after inhalation of from 40 to 60 per cent of oxygen in the air. They appear more comfortable, with the disappearance or diminution of cyanosis, decrease of restlessness, and at times relief of dyspnea. In many instances there is a drop in the pulse or the respiratory rate or in both; and there is a tendency to lessened delirium. There are demonstrable reasons for these consequences. The arterial oxygen saturation was increased in all the tested cases. In severe arterial anoxemia, the inhalation of from 40 to 60 per cent of oxygen raised the arterial oxygen saturation substantially, but not to the normal level. The arterial carbon dioxide content was lowered in some persons. This decrease was severe in only one patient.

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[1] Barach, A. L.: The Therapeutic Use of Oxygen, J. A. M. A. **79**: 693 (Aug. 26) 1922. Means, J. H.: Dyspnea, Medicine **3**: 309 (Aug.) 1924.

[2] Barach, A. L.: Methods and Results of Oxygen Treatment in Pneumonia, Arch. Int. Med. **37**: 186 (Feb.) 1926.

[3] Oxygen Therapy in Pneumonia, editorial, J. A. M. A. **85**: 37 (July 4) 1925.

It should not be supposed, of course, that administration of oxygen will combat the micro-organisms directly. The grave prognosis of persistent bacteremia in lobar pneumonia is unaltered by the administration of oxygen. Barach frankly insists that the value of this treatment is supportive and not curative. In his observations of severe dyspnea with cyanosis, oxygen treatment has appeared to prolong life until such a time as the immunity mechanism was able to accomplish recovery. That alone represents no mean benefit.

THE RETENTION OF URIC ACID

Somehow, uric acid does not lose its popularity as a subject of discussion. Scarcely a year passes that does not bring significant new facts relating to the chemical physiology of this substance. With them goes the formulation of new hypotheses and the rejection of others. The physician and, to a large degree, the layman have, however, become extremely cautious when reading facile publications about uric acid. What Barker [1] wrote twenty years ago as an introduction to his "Truth and Poetry Concerning Uric Acid" is equally applicable today:

> In the slow but steady advance which medicine is making, new facts are often established for a long time before they meet with general acceptance, and old theories have had their foundations washed out from under them years or decades before their fallacies have become generally recognized by the profession. It is easy to be too severe in criticizing the inertia of medical men in this respect, for the very conservatism which accounts for the facts mentioned has gone far to protect our guild from the too speedy welcoming of immature conceptions, on the one hand, and from the too easy rejection, on the other, of theories which, under assault by partisan or ignorant critics, prove ultimately to be sound. It is not an unwillingness to accept new truth or a desire stubbornly to retain error which is characteristic of our profession. On the contrary, it is rather the fear of being duped concerning the new or of being cheated of old and well tried good which animates it and determines its action or inaction.

The determination of the level of circulating uric acid in the blood is today comparatively an easy task. The progress of biochemical analysis has firmly established the fact that the blood content often is increased above what experience has shown to be a fairly constant normal in healthy persons. For a long time the power of the human organism to destroy uric acid has been seriously questioned, so that the quantitative variability in its concentration in the blood was not likely to be associated with changes in the metabolic disintegration of this purine compound. Of late, however, there has been a revival of the view that uric acid is subject to both destruction and elimination by the organism, as well as production in it.[2]

The accumulation of uric acid in the blood has also been looked on as evidence of renal impairment; but it must be admitted that such retention has been demonstrated to occur without coincident retention of nonprotein or urea nitrogen in persons whose kidneys were normal by the usual tests.[3] This finding throws doubt on the value of increased uric acid in the blood as an indication of renal impairment. It has long been known that the excretion of uric acid is greatly decreased in the absence of food;[4] and Lennox [5] has demonstrated that the decreased uric acid output during fasting is due to retention of the substance within the body. From his latest studies he concludes that kidneys and general body tissues both play a part in fasting retention; and it seems probable that the same is true for gout, in which similar conditions in blood and urine prevail.

Lennox believes that of the series of physiologic and chemical changes in body structure and function that occur during fasting, disturbance in the three following might be concerned in uric acid retention: (1) equilibrium of electrolytes (with resulting changes in water balance); (2) acid-base relationships of body tissues, including kidney or blood; (3) oxidation of fat with associated utilization of glucose. Because variations in acid-base relationships are more easily measured, they may have received undue prominence in this study. Disturbances in oxidation may be more fundamental. Some writers have explained the high blood uric acid found in cases of severe anoxemia, as in carbon monoxide poisoning, on the basis of diminished destruction (oxidation) of uric acid. Though that theory is discredited, it is possible that decreased or incomplete oxidation of body material results not in decreased oxidation of uric acid but in its retention. All the three possible factors that have been mentioned, Lennox adds, are interrelated. Their proper correlation, and the exact mechanism involved in retention of uric acid, must await other investigators and further knowledge. The complete explanation, when it comes, will probably not be simple. The problem of uric acid retention in fasting is probably, in its essentials, the old, unsolved problem of gout.

In a practical way it is significant that food, or at least the metabolism associated with its intake, facilitates the output of uric acid. It has long been known that ingestion of certain substances, not purine in nature and therefore presumably not immediate precursors of uric acid, increases the urinary output of the latter. Proteins and carbohydrates are more potent in this respect than fats; at any rate, feeding of the latter did not relieve uric acid retention. In relation to gout, Lennox's observations on the effects of foods have led him to suggest that overeating of fat, rather than of protein, is of etiologic importance. In relation to treatment, they suggest the use of a low fat diet—one consisting mainly of carbohydrate and protein. If this seems too heterodox, we may recall Barker's reminder that no one who grows can escape the pain of being forced, now and then, to sacrifice dearly cherished opinions; but if truth is followed, a satisfaction is always gained superior to that which has been lost.

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[1] Barker, L. F.: Truth and Poetry Concerning Uric Acid, Chicago, American Medical Association, 1905.

[2] The Uric Acid Problem, editorial, J. A. M. A. **83**: 1246 (Oct. 18) 1924; Uric Acid Excretion, ibid. **83**: 1593 (Nov. 15) 1924.

[3] Lennox, W. G.: Increase of Uric Acid in the Blood During Prolonged Starvation, J. A. M. A. **82**: 602 (Feb. 23) 1924.

[4] Benedict, F. G.: Pub. 203, Carnegie Institution of Washington, 1915.

[5] Lennox, W. G.: A Study of the Retention of Uric Acid During Fasting, J. Biol. Chem. **66**: 521 (Dec.) 1925.

A STUDY OF GASTRIC MOTILITY

All contractile tissues that exhibit an inherent rhythmicity in their performance present the problem of where and how the muscular movements are initiated and what physiologic device facilitates the orderly sequence of contractile changes. This well regulated progression of performance is exemplified in the action of the heart, in which the beat of one part is followed under precisely defined conditions by the contraction of another chamber. Even slight disturbance of this rhythmic program is indicative of a pathologic condition. Modern study has directed attention to the so-called pacemaker of the heart. The cardiac organs of the lower forms exhibit a series of different chambers, beginning with the sinus venosus, into which the great veins open and from which the excitation wave spreads. In the human and other mammalian hearts, a remnant of the sinus venosus is found in the right auricle at the junction of the superior vena cava. It is represented by the collection of tissue known as the sino-auricular or Keith-Flack node. The beat of the heart begins in this tissue and spreads directly to the auricular muscle. The auriculoventricular bundle of His provides a path of conduction of impulses from auricle to ventricle. Interference with its function has been made familiar through the manifestations of the Adams-Stokes syndrome.

There are evident analogies between the features of cardiac physiology and those of alimentary peristalsis. The latter involves the orderly successive contractions of muscular structures, some of which are arranged into organs. Gastric motility is concerned with them. Various attempts have been made in recent years to find, in the stomach activities, phenomena parallel to those observed in the heart. This has involved the effort, for example, to discover the presence of a nodal center in which the gastric waves arise and a conduction system through which they are propagated.

In his studies at the Department of Surgery in the Columbia University College of Physicians and Surgeons, Klein[1] believes that he has found a gastric pacemaker that corresponds in some degree to the sino-auricular node of the heart. There is both anatomic and experimental evidence for the belief that the gastric wave originates in a nodal center on the lesser curvature at the cardia. The impulse passes down along the lesser curvature. As it reaches each point on the lesser curvature, the entire circular ring at that level contracts and so the peristaltic wave passes down. At the reentrant angle there is a nodal center for the muscular activity of the antrum. Klein reminds us that excisions of portions of the lesser curvature by the surgeon and destruction of areas by such pathologic processes as ulcer give further evidence as to the importance of this part of the stomach for normal motility. An ulcer on the lesser curvature is notoriously associated with delayed gastric motility and with vomiting. In contradistinction to this, large lesions of the body and greater curvature of the stomach are attended with far less disturbance of motility. Many clinical phenomena are more readily interpreted on Klein's hypothesis that irritating lesions on the lesser curvature may cause a persistent contraction of the circular muscle at the level of irritation, whereas excision or destruction of a portion of the lesser curvature disturbs the orderly conduction, so that weakened peristalsis results beyond that level.

Current Comment

THE QUARTERLY REVIEW OF BIOLOGY

The study of living tissues and the phenomena that concern them is fundamental to the study of medicine. Thus it is that the practice of the latter science involves a knowledge—at least an elementary knowledge—of all other sciences. So great is the mass of information available today that all agree it is beyond the memory and the comprehension of any one man. Nevertheless, the fundamental principles governing life should be familiar to every medical man. Indeed, the view is generally accepted that our civilization can advance only to the extent that general knowledge of these matters becomes available to all men. In the foreword to a new periodical, the *Quarterly Review of Biology*,[1] Prof. Raymond Pearl, its editor, says, "Popular scientific writing which takes as its target the mental age of about ten is, we believe, quite as nauseating to intelligent lay readers as it is to men of science." But he believes there is a fairly numerous body of cultivated men and women who are genuinely interested in knowing about the progress of biology, and quite as capable of understanding clearly written essays in this field as may be the average scientist. This new periodical is offered, therefore, to the group which in the literary field is somewhat sneeringly known as the "intelligentsia." It is offered as well to readers in all the sciences who are interested in correlating actual accomplishments of research in one field with the advancement in others. Only by education will follies and fallacies be overcome. Professor Pearl challenges ignorance with the defiance of science. "The plain fact, of course, is," he says, "that there can never be any real compromise between science and mysticism, between the real and the supernatural, between light and darkness, between the demonstrable verifiable truth which makes us free and ancient superstitions grounded in phallic folklore. . . . Man's emancipation from the domination of priesthoods of one breed or another has been in precise proportion to the depth and breadth of the understanding of nature which science has given him."

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[1] Klein, Eugene: Gastric Motility, I, The Origin and Character of Gastric Peristalsis, Arch. Surg. **12**: 571 (Feb.) 1926; II, The Conduction of the Gastric Peristaltic Wave, ibid., p. 583

[1] The Quarterly Review of Biology, Baltimore, the Williams & Wilkins Company

THE INCUBUS OF THE HARRISON NARCOTIC ACT

Under cloak of the Harrison Narcotic Act physicians were saddled for years with a quarter million dollar tax annually in excess of the tax necessary to make the act valid. They have just convinced Congress of the injustice of that burden, and it will be removed, July 1. Now, however, comes a threat of other burdens even more serious. For the purpose of "strengthening" the Harrison Narcotic Act, a bill has been introduced into Congress limiting the right of physicians to use narcotics, imposing additional duties on them with respect to such narcotics as they may lawfully use, and greatly increasing the penalty for violations of the act, intentional or unintentional. The bill is discussed elsewhere in this issue.[1] This legislation is in effect a confession by the officers charged with the execution of the Harrison Narcotic Act that in its present form it cannot accomplish the purpose for which it was passed. In effect, it charges the responsibility for failure to deficiencies in the act itself, instead of to the inadequacy or inefficiency of enforcement officers. A study of the proposed bill certainly raises some doubts as to its adequacy to accomplish more than has been achieved by previous legislation. The hearings on the bill will be awaited with interest.

AGAIN, PROTEST THE SHEPPARD-TOWNER ACT

The Journal, February 6, called attention to bills pending in Congress to authorize operations under the Sheppard-Towner Act for two years beyond the limit originally fixed for the termination of such activities. The House of Delegates had previously condemned the original act. The Journal, therefore, appealed to constituent societies and other agencies to support the action of the House by protesting to their senators and representatives against the enactment of these bills to extend its life. Such a bill has, however, passed the House of Representatives. In the Senate, the Committee on Education and Labor reported favorably the bill already enacted by the House, but recommended that authority for prolonging operations under the act be limited to one year. This abbreviation of the proposed prolongation of the life of the act was based on the opinion of the committee that the functions taken over by the federal government under the Sheppard-Towner Act were state functions and should be allowed to revert to the states. The evidence offered by the proponents of the pending legislation to justify its enactment, so far as such evidence is available, is of a most general and uncertain character, and much of it comes from interested witnesses. Certainly it is not such as to convince any person accustomed to weigh evidence concerning such matters that the Sheppard-Towner act has reduced or ever will reduce maternal or infant mortality beyond the reduction that the states themselves might effect. Nor is the evidence such as will convince a careful student of government that the federal government can continue to buy from the states, through subsidies, the right to supervise and control state activities that the federal government under the constitution cannot directly control, without endangering our entire system of government. The proponents of the pending bills frankly admit that the two years' extension they have sought is not sufficient to accomplish the purpose of the act, and that additional extensions for indefinite periods will be required. They are not likely, therefore, to omit any effort to have the Senate reject the recommendation of the committee that the life of the act be prolonged for one year only and enact the bill as passed by the House, providing two years' extension. Those who believe that the Sheppard-Towner act is essentially pernicious will do well, therefore, to continue their efforts to defeat any legislation looking toward the extension of the act for any period whatever. Action toward that end may accomplish its purpose, and even if it does not, it will tend to support the recommendation of the committee for a one year extension only. Protests, to be effective, should be sent immediately, by telegram or special delivery, as the bill may come up for action at any time.

PHYSICIANS IN PUBLIC LIFE

In a recent issue,[1] reference was made to physicians serving in the American congress. The record for medical representation in parliament seems, however, to belong, by far, to a South American country. A Uruguayan contemporary[2] states that in the last elections five physicians were appointed to the senate and twenty-five to the house of representatives. Uruguay is a rather small but a wealthy and progressive country, with a population of about 1,500,000 and less than 1,000 physicians. As there are about nineteen senators and 125 representatives, physicians make a little less than one fourth of the senate membership and one fifth of the house. This cannot be attributed to undue fondness of politics on the part of our Uruguayan confrères, as a number of those elected to congress have already expressed their intention of refusing the honor. Physicians have always been prominent in public life throughout Latin America. Unanue, the Peruvian statesman whose statue stands now in Washington, is undoubtedly the best example. Recent deaths have served to recall the rôle assumed by such men as Damianowich and Sandoval in the early Argentine wars, and de Toledo Piza in changing Brazil from an empire into a republic. At present, physicians are filling not only such positions as might naturally seem of their incumbency, as secretaries of public health—Cuba, Chile, Colombia, Salvador—and university presidents—Mexico, Buenos Aires, Santiago de Chile, Guayaquil—but others less connected with medicine, in the highest diplomatic and consular ranks, including secretary of state in Venezuela, secretary of education in Mexico, and vice president of the republic in Nicaragua.

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[1] This issue, p. 1473.

[1] Physicians in Congress, Current Comment, J. A. M. A. 86:489 (Feb. 13) 1926.

[2] Boletín del Sindicato Médico del Uruguay, January, 1926.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

ALABAMA

State Medical Election.—At the annual meeting of the Medical Association of the State of Alabama, April 27-30, Dr. Aaron L. Harlan, Alexander City, was elected president; Drs. George A. Cryer, Anniston, Thomas Joseph Dean, Union Springs, Victor H. Williams, Jasper, and Kossuth A. Mayer, Lower Peach Tree, vice presidents; Dr. Douglas L. Cannon, Montgomery, assistant secretary, and Dr. Jacob U. Ray, Jr., Woodstock, treasurer.

CALIFORNIA

Vaccination in Los Angeles.—More than 300,000 persons were vaccinated against smallpox by the Los Angeles City Department of Health between January 1 and March 6; of this number at least 120,000 were pupils in the public schools; 65,000 employees in industry, and 5,000 inmates of institutions.

Society News.—Dr. Victor G. Vecki, San Francisco, addressed the Los Angeles County Medical Association, April 15, on "Organization of the Medical Profession in the United States," and Dr. Anders Peterson on "Perinephritic Abscess Following Peripheral Infections."——Among others, Dr. Ray Lyman Wilbur, president of Stanford University addressed the fourth annual meeting of the Pacific Coast Oto-Ophthalmological Society, San Francisco, April 26-28, on "Medical Education in Relation to the Specialists."

"Evreco Oil" Rubs.—T. C. Everhart, Venice, pleaded guilty, February 11, to violation of the medical practice act, and was sentenced to 100 days in jail, the sentence being suspended for two years on condition of good behavior. Although Everhart, the state board of medical examiners says, has no medical education whatever, he has been treating patients at Venice during the last two years with "Evreco Oil," which he rubs on for rheumatism and paralysis, seven rubs, with some other medicine, costing from $100 to $500. Everhart, when arrested, was treating a wealthy Canadian who came to California in a special car.

Smallpox Kills One Hundred and Sixty-Three in Three Months.—The report of the California State Board of Health for the first quarter this year shows that 163 persons are known to have died of smallpox; there were 1,836 cases reported. The fatality rate for the entire state for this period was 8.8 per cent, but it was 17 per cent in some localities; 136 of the deaths occurred in the city of Los Angeles and six others in Los Angeles County; six occurred in San Francisco County. During the first ten days of April, thirty-five deaths were reported to the state board. There are indications, it is said, that the children in communities in which the disease is most prevalent are now "rather extensively" immunized. The disease, however, continues to take a heavy toll among unvaccinated adults.

Summer Institute for Nurses.—The fifth annual institute for public health nurses will be held at Berkeley, July 12-23, sponsored by the University of California and the state board of health. The institute is designed to provide a means for the exchange of practical ideas to make school and community nursing more efficient, and to provide a review of technical subjects concerning the control of communicable disease. Any public health nurse with at least one year of experience is eligible to admission, and certificates of attendance will be given those who register and attend all sessions. Meetings will be held in the afternoons except Saturday, and mornings will be used in visiting health centers in the nearby communities. Inquiries should be addressed to the California State Board of Health, Sacramento.

FLORIDA

Medical Arts Building.—The Medical Arts Building Company, Tampa, announces that it will erect a twelve story office building at the corner of Plant and Grand Central avenues, at a cost of about $1,200,000, which will be devoted exclusively to the use of physicians and dentists. The project, which is said to have been approved by the Hillsborough County Medical Society, has been financed and the site purchased, and nearly all the space in the building leased. The structure has been planned to provide the utmost convenience to the two professions.

State Board of Health Items.—There had been 1,279 cases of smallpox in Florida in the recent outbreak up to March 13 with only two deaths; medical officers vaccinated 14,000 people in February. The town of Callahan, according to the state board of health, is practically 100 per cent vaccinated against smallpox; most of the cities of the state have been reporting all cases to the state board; a few cities, it is said, have reported only a fraction of their known cases; for example, a city is cited that reported less than six cases to the bureau of vital statistics, while the city physician personally knew of more than forty cases in that community.

GEORGIA

State Medical Meeting.—The seventy-seventh annual meeting of the Medical Association of Georgia will be at Albany, May 12-15, under the presidency of Dr. Frank K. Boland, Atlanta. Meetings will be held at the City Auditorium, and the Wednesday morning session will be open to the public also the Thursday noon session, when the president delivers his address. The annual banquet will be Thursday evening at 7 o'clock. The house of delegates meets Tuesday at 7:30 p. m., and Wednesday and Thursday at 8 a. m. The council meets at 5 p. m. Tuesday, and the conference of secretaries Thursday, 5:30 p. m. Dr. Seale Harris, Birmingham, Ala., past president of the Southern Medical Association, will be the guest of the association; Dr. Harris will give an address on "Low Carbohydrate Relatively High Fat and Rich Vitamin Diet in the Treatment of Gastric and Duodenal Ulcer." The scientific program includes many of the prominent physicians of the state. The Georgia Pediatric Society will hold a smoker, Wednesday evening.

ILLINOIS

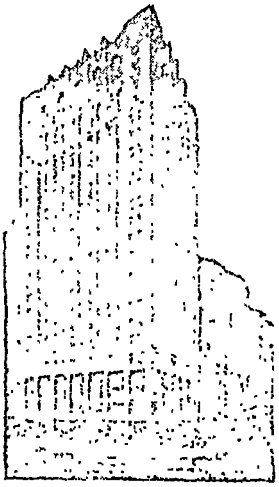
Home for Blind Babies.—The International Sunshine Society, Inc., a newspaper club, desires to locate the blind babies and young blind children of Illinois in order to help secure a law that will provide care for blind babies; there is only one institution in the country, it is said, the Arthur Home-Hospital and Kindergarten for the Blind at Summit, N. J., which, for a small daily allowance, will take blind babies of any race or creed and give them special care and instruction. Persons who know of blind babies are requested to communicate with Mrs. John Alden, 96 Fifth Avenue, New York, president of the International Sunshine Department for Blind Babies.

Society News.—Dr. Elven J. Berkheiser, Chicago, addressed the Will and Grundy County Medical Society, Joliet, April 14, on "Diagnosis of Vertebral Lesions."——Dr. Edwin J. Gardiner has been elected president of the Chicago Ophthalmological Society; Dr. Dwight C. Orcutt, vice president, and Dr. Robert H. Buck, secretary-treasurer.——Dr. Lewis J. Pollock, associate professor of neurology, Northwestern University College of Medicine, Chicago, gave an illustrated address before the Mercer County Medical Society, April 12, on the "New Logic of Diagnosis."——Dr. Stuart Pritchard, Battle Creek, Mich., gave a demonstration of the use of lipiodol in roentgen-ray work before the Decatur Medical Society at the Decatur and Macon County Hospital, April 15.

Chicago

Society News.—Dr. Stuart Pritchard, Battle Creek, Mich., will address the annual meeting of the Chicago Tuberculosis Society at the Brevoort Hotel, May 13, 8 o'clock, on "Value of Iodized Oil in Bronchial Infections from a Diagnostic and Therapeutic Standpoint."——There will be a symposium on bone tumors at the annual meeting of the Chicago Roentgen Society, Virginia Hotel, May 13, by Drs. William C. MacCarty and Henry W. Meyerding, both of Rochester, Minn., and Anatole Kolodny, Iowa City. ——The final meeting of the season of the Chicago Ophthalmological Society will be at the Hotel Sherman, May 17; Dr. William H. Luedde, St. Louis University School of Medicine, St. Louis, will give an address on "The Mechanism of Accommodation," and Dr. Robert Von der Heydt will demonstrate the Nordenson-Zeiss camera for photographing the fundus.——The monthly clinical meeting of the Chicago Surgical Society was held at the Research and Educational Hospital, University of Illinois, May 7.——Dr. Arthur E. Guedel, Indianapolis, addressed the Chicago Medical Society, May 5, on "Metabolism and the Anesthetic."——Attention of members of the Chicago Medical Society has been directed to the three hundred and sixty-fifth medical squadron, organized reserves, which is being organized; the following vacancies exist: three captains and four lieutenants in the medical section; one lieutenant in the dental section; one captain in the veterinary section. Information may be obtained from Lieut.-Col. John G. Winter, Executive Officer, headquarters, Sixty-Fifth Cavalry Division, Telephone, State 5365.

Medical Arts Building.—The Medical and Dental Arts Club of Chicago announces that it will erect a twenty-three story professional building at the southeast corner of Wabash Avenue and Lake Street which will be ready for occupancy, May 1, 1927. Plans for the building have been made by D. H. Burnham and Company, architects, and the finances arranged by a $3,100,000 loan from S. W. Strauss and Company. The objects of the Medical and Dental Arts Club are to provide a permanent home for all the medical and dental societies in Chicago; to establish a social professional club for its members, and to create a commercial center for the leading medical and dental supply houses. The top floors of the building will contain clubrooms, reading rooms, dining rooms and lounge; the twenty-first to fourteenth floors, offices for physicians and dentists; the fourteenth to the seventh floors will be for medical and dental supply houses; the fifth and sixth floors will be an auditorium and headquarters for the Chicago Medical Society and the local and national dental associations, and the first four floors will contain stores. Membership in the Medical and Dental Arts Club is restricted to members of the Chicago Medical Society and the Chicago Dental Society. This project is the first in any city to create a professional center for the commercial, social and scientific activities of the two professions. There are nearly fifty special medical and dental societies in Chicago which will be enabled to have quarters in this building. The board of trustees of the Medical and Dental Arts Club include Drs. Frank Billings, William Allen Pusey, Jeremiah H. Walsh, Hugh N. MacKechnie, Charles E. Humiston, and, in the dental profession, Drs. Otto U. King, Charles N. Johnson, Alexander A. Goldsmith and M. M. Printz. Dr. John S. Nagel is the president of the club; Drs. John H. Cadmus and Robert H. Hayes, vice presidents; Dr. Frederick R. Green, secretary; Dr. Harry B. Pinney, treasurer, and Mr. John A. King, business manager.



IOWA

Society News.—Members of the Scott and Rock Island County Medical Societies in joint session, April 6, voted to close their offices Wednesday afternoons during the summer months, and to hold a "big outdoor picnic," probably in June. ——Dr. Arthur Steindler, professor of orthopedics, State University of Iowa College of Medicine, Iowa City, gave an illustrated lecture before the Scott-Rock Island County Medical Societies, Davenport, April 6, on "Compression Paraplegia in Spinal Diseases."

Personal.—Dr. Glen W. Doolen, Davenport, has been reappointed as Scott County physician.——Dr. Elmer L. Lampe has been appointed health officer of Bellevue to succeed Dr. John C. Dennison, resigned, who held that position for many years.——Dr. H. G. Clarke, Perry Point, Md., has arrived in Knoxville as the new officer in charge of the local U. S. Veterans' Bureau Hospital, and Dr. Otto R. Lynch, Los Angeles, has arrived and will be the assistant to the superintendent of the hospital.

Iowa Heart Association.—The second annual meeting of this association will be held, May 14, at the Fort Des Moines Hotel, Des Moines. Dr. Paul D. White, Massachusetts General Hospital, Boston, will speak on "The Conservation of Hearts"; Dr. Fred M. Smith, State University of Iowa College of Medicine, Iowa City, "The Future of Heart Work in Iowa." There will be a report on the year's work, and a business meeting following the luncheon, with election of officers. All members of the association and all other physicians interested are cordially invited to attend.

MICHIGAN

Degrees in Public Health.—The dean of the Detroit College of Medicine and Surgery writes that degrees of Doctor of Public Health (Dr.P.H.) are never issued to any one who does not already hold a degree of Doctor of Medicine from a reputable medical school. This is in reply to an item in The Journal, March 27, based on a resolution adopted by the Ingham County Medical Society.

Society News.—Dr. David Clark, clinical professor of psychiatry, Detroit College of Medicine, Detroit, addressed the Washtenaw County Medical Society, Ann Arbor, April 29, on "Trouble Cases from the Mental Angle"; Dr. Clark's paper was discussed by Dr. Hugh Cabot, dean of the University of Michigan Medical School, Ann Arbor, and by Dr. James D. Bruce, chief of the medical service.

MISSOURI

Personal.—Dr. Cecil L. Wayman has been appointed tuberculosis controller of St. Louis by the hospital commissioner. ——Dr. Homer F. White has been appointed superintendent of the General Hospital, Kansas City, to succeed Dr. T. A. Kyner.——Dr. David P. Ferris, St. Louis, has been appointed chief otolaryngologist at Alexian Brothers' Hospital and director of the department at Alexian Brothers' Dispensary.——In a reorganization of the health department of Kansas City, by the director of health, Dr. Ernest W. Cavaness, Dr. Leonard Mason Lyons was appointed city epidemiologist, and Dr. John L. Lavan, commissioner of child hygiene and communicable diseases.

U. S. Supreme Court Upholds State Board.—An opinion was recently handed down in the Supreme Court of the United States by Justice Stone, upholding the Missouri State Board of Health in revoking the license to practice medicine of Dr. Leon Hurwitz, who was charged by the board with having performed an illegal operation. When the Supreme Court of Missouri decided in favor of the state board, Dr. Hurwitz took the case to the U. S. Supreme Court, claiming that the board had exceeded its authority and that its action was in violation of the constitution. The Supreme Court of the United States decided, April 12, that the state board of health had the right to proceed with this investigation and on conviction to revoke Dr. Hurwitz' license to practice medicine. This is said to be the first case of this character to be decided by the U. S. Supreme Court. The Missouri State Board of Health was represented by Attorney General North T. Gentry of Jefferson City.

NEW YORK

Raise of Pay for Health Officers.—The governor signed a bill, April 12, which will increase the salary of health officers of the state in villages and cities of more than 8,000 population from a minimum of $800 to $1,200; in towns and villages of less than 8,000 population, the rate per capita for health officers is increased from 10 cents to 15 cents. The new law also allows health officers extra compensation for taking cultures, and provides for the appointment of a substitute when the health officer is absent.

Legislature to Investigate Chiropractic.—A resolution has been adopted by both houses of the New York legislature which provides for an investigation into the practice of chiropractic in the state by a joint committee comprising two senators and three members of the assembly. The committee will inquire into the nature and work of chiropractors in the state, their qualifications, and will propose such legislation as it deems necessary to regulate and control the practice of chiropractic. The committee is empowered to employ counsel and other assistants and to incur expenses of not more than $5,000. A report will be submitted to the legislature on or before Feb. 15, 1927.

Annual Tuberculosis Meeting.—The state committee on tuberculosis and public health of the State Charities Aid Association will hold its annual meeting, June 1-3, in Cattaraugus County, with headquarters at Olean and Salamanca, in order to facilitate a study of the health demonstration which has been going on in that county with the financial assistance of the Milbank Memorial Fund for about four years. The program is planned to give every opportunity to observe how this demonstration is being done. There will be visits to Allegany State Park, where the children's camp is, and to the county tuberculosis sanatorium at Rocky Crest. Delegates will be conducted to all parts of the county; Sir Arthur Newsholme, formerly principal medical officer of the local government board of England, will give an address the first day.

New York City

Dr. Stewart Appointed Medical Director.—It was announced, April 29, that Dr. George David Stewart had been appointed medical director of the Broad Street Hospital and Dr. Arthur M. Wright, assistant medical director; plans have been made, it is said, for a complete reorganization of the hospital.

Library News.—The library of the New York Academy of Medicine has just procured from Germany a copy of another incunabulum "De Proprietatibus Rerum" by Bartholomaeus Anglicus, printed in 1483. The work consists of nineteen books, of which numbers 5, 6 and 7 are anatomic and medical.——The library of the late Dr. Nathan E. Brill has been presented to the Academy of Medicine by the widow.

Distribution of Hospital Fund.—The distributing committee of the United Hospital Fund met in the mayor's office at the city hall, April 15, and distributed nearly $600,000 among the fifty-six member hospitals of the fund, as the public's contribution this year toward meeting the cost of hospital care for the poor. The funds are distributed in proportion to the amount of free service given to the poor, regardless of race or creed.

Personal.—Dr. William H. Godsick has been appointed assistant attending gynecologist and obstetrician to the Lincoln Hospital.——Dr. Louis Kleinfeld, chief, ear, nose and throat-clinic, Mount Sinai Hospital, has been appointed adjunct laryngologist to the hospital; Dr. Kleinfeld has resigned from the otolaryngologic staff at the Manhattan State Hospital.——Sir Spencer Lister, research bacteriologist for the South African Institute of Medical Research, Johannesburg, arrived in New York, April 17.——Dr. Jacob Sobel has been appointed attending pediatrician to the Hospital for Joint Diseases.

NORTH CAROLINA

Wing of State Hospital Burned.—A wing of the state hospital for the insane, at Raleigh, was destroyed by fire, April 10, at a loss estimated at $500,000. The patients were all moved without injury to any one. The wing destroyed was built in 1853.

Hospital News.—The North Carolina State Institution for the Blind has let the contract for the new hospital for which the last legislature authorized an appropriation of $50,000. ——Dr. S. Dace McPherson, Durham, announces the opening of a private hospital, the McPherson Hospital, for the treatment of diseases of the eye, ear, nose and throat.

Summer Postgraduate Instruction.—North Carolina physicians will have the opportunity this summer of attending lectures and clinics conducted by specialists under the auspices of the university extension division in each of six different cities for two hours once a week for twelve weeks. The courses have been offered to ten cities, and the six that first procure the fifteen signatures of physicians required will receive the courses. The instructors will be Dr. Howard B. Sprague, Boston, diseases of the heart; Dr. Edward S. Emery, Jr., Boston, diseases of the gastro-intestinal tract, and Dr. Dwight O'Hara, Waltham, Mass., diseases incident to middle and old age.

OREGON

Hospital News.—The $270,000 addition to the Emanuel Hospital, Portland, which was dedicated in March, has five stories, sixty-three private rooms and twenty-six rooms for two or more patients; the Swedish Lutheran Church manages the hospital.——The Pacific Protective Society of Portland is raising $60,000 to complete the Juvenile Hospital for Girls, which is located near Troutdale.

Society News.—A two day clinic was conducted before the Klamath Falls County Medical Society in March at Klamath Falls by Dr. Charles C. Tiffin, Seattle, at which more than forty cases of goiter were presented.——At the March meeting of the Portland Academy of Medicine, Portland, Dr. Hyman B. Meyers spoke on "The Comparative Toxicity of Volatile Oils Toward Yeast."——Dr. Blair Holcomb addressed the Portland City and County Medical Society, March 17, on "The Results of the High Carbohydrate Diet for Diabetes," and Dr. Isidor C. Brill on "Acute Febrile Anemia (a new disease)."

PENNSYLVANIA

Personal.—Dr. Percival J. Herman, Selinsgrove, was recently dinner host to the Snyder County Medical Society in Middleburg, on the occasion of his completion of fifty years in the practice of medicine.——Dr. Lloyd E. Wurster, Williamsport, has been elected president of the Roentgen-Ray Society of Central Pennsylvania.——Dr. James H. McClelland has been elected physician to the board of health of Grove City.

University Appointments and Promotions.—Dr. Eliot R. Clark of the University of Georgia School of Medicine has been appointed to the faculty of the University of Pennsylvania School of Medicine; Dr. David H. Bergey has been promoted to professor of hygiene and bacteriology; Horace B. Baker to be assistant professor of zoology; Dr. Morton McCutcheon to be assistant professor of pathology in the school of medicine; James C. Andrews to be assistant professor of physiologic chemistry, and Dr. Stanley O. Chambers to be assistant professor of dermatology and syphilology.

Philadelphia

Hospital News.—Mr. Samuel Rea, former president of the Pennsylvania Railroad, has accepted the chairmanship of the committee to raise $1,000,000 to enlarge and equip the Bryn Mawr Hospital at Bryn Mawr. There has been no enlargement to the hospital since it was built in 1893, excepting forty-four beds, while the population it serves has more than trebled.——Herbert Hoover, secretary of commerce, assisted in the ceremonies, April 15, of breaking ground for the emergency hospital for the Sesqui-Centennial exposition. The eight bed hospital will cost about $15,000.

Death of William Potter.—William Potter, for many years president of the board of trustees and president of Jefferson Medical College, died, April 29, following an operation. In addition to his great work at this institution, Mr. Potter's life was devoted largely to public service; he was appointed by President Harrison special commissioner to London, Paris and Berlin in behalf of the U. S. Postoffice Department, and was responsible for perfecting the international marine postoffice system; he went to Porto Rico for the government during the Spanish-American War; was United States Minister to Italy, 1892-1894, and was national fuel administrator for Pennsylvania during the World War.

Society News.—Dr. Isador C. Rubin, New York, addressed the Philadelphia County Medical Society, April 28, on "Sterility in the Female."—Dr. Paul D. White, Boston, addressed the Cardiac Clinics Committee of the Philadelphia Heart Association, April 27, on "The Prognosis of Angina Pectoris and Coronary Thrombosis."——Dr. S. Adolphus Knopf, New York, will address the Philadelphia County Medical Society, May 12, on "Mental and Physical Rest in Pulmonary Tuberculosis," and Dr. Howard Lilienthal, New York, on "Surgical Methods in the Treatment of Pulmonary Phthisis."——Dr. Harry Gideon Wells, Chicago, professor of pathology and chairman of the department, University of Chicago, will address the open meeting of the Bio-Chemical Society of Jefferson Medical College, October 15, on "The Chemistry of Immunity."——Withrow Morse, Ph.D., professor of physiologic chemistry and toxicology, Jefferson Medical College, addressed the annual meeting of the American Philosophical Society, April 22, on "The Metabolism of Uric Acid."——At the fifth annual meeting of the Philadelphia Heart Disease Association, April 13, the following officers were elected: president, Dr. George W. Norris; vice president, Dr. Henry K. Mohler; secretary, Dr. William D. Stroud.—— Dr. Temple S. Fay presented a case before the Philadelphia Neurological Society, April 23, of "Combined Glossopharyngeal and Cervical Posterior Root Resection for Pain from Carcinoma of the Throat."——Sir Arthur Newsholme, London, England, addressed a joint meeting of the Philadelphia Pediatric Society and the Section on Public Health and Industrial Medicine of the College of Physicians of Philadelphia, April 19, on "Some Remaining Problems in Maternity and Child Welfare."

TENNESSEE

Society News.—The annual meeting of the West Tennessee Medical and Surgical Association will be at Jackson, May 27-28, under the presidency of Dr. Eugene M. Holder, of Memphis; Dr. Isaac A. McSwain, Paris, has been secretary of this organization during its entire existence of more than thirty years.——The Chattanooga Medical Society invited the county court, the Chattanooga City Commission, representatives from each of the civic clubs, and the trustees of the Erlanger Hospital to meet with the society in the special session, April 22, to acquaint them with the various clinics and the health department; following a brief session of the society, the entire party visited the health department and the outdoor clinic at the Erlanger Hospital; brief talks on public health were arranged by the new advisory council, among the members of which are Dr. Ezekiel S. Blair, Apison; Dr. Alfred W. Gross, Sale Creek, and Drs. Leon T. Stem, Edward T. Newell, William D. Anderson, Samuel H. Long, and John B. Steel, all of Chattanooga.

TEXAS

More Medical Arts Buildings.—The *Texas State Journal of Medicine* notes that an eleven story medical arts building will soon be erected at Wichita Falls; a five story medical arts building at Corpus Christi, and a four story medical arts building at Abilene.

Personal.—Harry V. Atkinson, Ph.D., professor of pharmacology, University of Texas School of Medicine, Galveston, has resigned and accepted the position of associate professor of pharmacology at Iowa State University College of Medicine, Iowa City.——W. T. Dawson, M.A., associate professor of physiology, University of Texas, has been appointed associate professor of pharmacology.——Dr. Joel E. Wright, Alpine, has been elected health officer of Brewster County.

Illegal Practitioners Convicted.—Mrs. Addie Wise, Fort Worth, who is reported to have pleaded guilty recently to violation of the medical practice act, was fined $50 and sentenced to one day in jail; for years Mrs. Wise has advertised "Addawise" as a cancer cure.——H. Gordon Hargett, a chiropractor, was recently convicted at Fort Worth of the unlawful practice of medicine; Hargett claimed, it is reported, to have made no charge for the treatment, but admitted having accepted money from the patient's husband.

UTAH

State Medical Meeting.—The thirty-second annual meeting of the Utah State Medical Association will be held at Stewart Hall, University of Utah, Salt Lake City, May 6-8. It has been decided to eliminate discussions at this meeting, except as requested by the president, and to encourage the asking of questions within the time allotted for each address. Guests from other states include Dr. Anton J. Carlson, professor and chairman of the department of physiology, University of Chicago; Dr. Robert C. Coffey, Portland, Ore.; Roger S. Hubbard, Ph.D., Clifton Springs, N. Y.; Dr. Edmund Jacobson, research associate in physiology, University of Chicago; Dr. Dean P. Pratt, Henry Ford Hospital, Detroit; Dr. Edwin P. Sloan, Bloomington, Ill.; Dr. Charles C. Tiffin, Seattle, and Dr. Harry Gideon Wells, professor and chairman of the department of pathology, University of Chicago. A reception will be given in honor of the visiting ladies at the Hotel Utah, Friday. The postgraduate clinic week will be held later in the year.

VIRGINIA

Memorial to Walter Reed.—A commission appointed by the Medical Society of Virginia met in Richmond late in April and authorized the immediate purchase of the little frame building at Belroi, in which Walter Reed was born, as a memorial to the discoverer of the means of transmission of yellow fever. The building was built originally to shelter the overseer of the plantation on which it was located. At the time of Dr. Reed's death, it was a Methodist parsonage. The children of Virginia will be given an opportunity to contribute to the fund required to purchase and restore the building, which the Gloucester Chamber of Commerce, it is reported, has agreed to maintain. Whereas hundreds of people visit this shrine now, the commission believes that, when it has been restored, the number of visitors will be greatly increased. The members of the Walter Reed Memorial Commission are: Drs. Edward C. S. Taliaferro, Norfolk; Greer Baughman, Richmond; Clarence Porter Jones, Newport News; Halstead S. Hedges, Charlottesville, and Garnett Nelson, Richmond.

GENERAL

Fourth Colloid Symposium.—The fourth National Colloid Symposium will be held at Cambridge, Mass., June 23-25; among the speakers will be G. L. Clark, "Roentgen Rays and Colloids"; J. W. McBain, "A Survey of the Main Principles of Colloid Science," and G. S. Whitby, "Organophil Colloids."

Annual Directory of County Health Officers.—*Public Health Reports,* April 16, contains the annual directory of whole-time county health officers in the United States. There are 302 on the list while in the directory published last year there were 285. A whole-time public health officer is defined as one who does not engage in the practice of medicine or any other business, but devotes his whole time to his official duties.

Survey of Food.—The U. S. Department of Agriculture will undertake a survey in July to determine the kinds of food eaten throughout the United States, the quality and the quantities consumed in various sections. There is said to have been no adequate figures on food consumption available, and there is a demand for such information for scientific research and various other groups. It is planned to determine also whether an adequately nutritive diet is within the incomes of large groups of people. A committee will be appointed to conduct the survey.

Award of Leslie Dana Medal.—The National Committee for the Prevention of Blindness announces that the Leslie Dana Medal for the greatest achievement in the prevention of blindness and the saving of sight will be awarded to Miss Louisa Lee Schuyler, of New York. Miss Schuyler is said to have been personally responsible for the founding of the National Committee for the Prevention of Blindness; her interest in public health dates back to the Civil War, when she was an active leader of the Sanitary Commission. Last year the Leslie Dana Medal was awarded to Dr. Edward F. Jackson of Denver "for outstanding achievement in the organization of instruction in ophthalmological and medical colleges and for his contribution to the literature of ophthalmology."

Society News.—The second Pan-American Red Cross Conference will meet, May 25-June 5, at Washington, D. C. The New York chapter will meet all delegates on the arrival of their steamers in that port. The official headquarters will be at the Waldorf-Astoria in New York and at the Willard Hotel in Washington.——Dr. William G. Exton, Newark, N. J., was elected president of the American Society of Clinical Pathologists at the annual meeting, April 15-17, in Dallas, Texas; Dr. Arthur H. Sanford, Rochester, Minn., president-elect; Dr. James H. Black, Dallas, Texas, vice president, and Dr. Ward T. Burdick, Denver, secretary-treasurer.——Dr. Karl K. Koessler, Chicago, was reelected president of the American Association for the Study of Allergy at the annual meeting in Dallas, Texas, April 20, and Dr. Albert H. Rowe, Oakland, Calif., was reelected secretary-treasurer.

National Home for Disabled Volunteer Soldiers.—Established by an act of Congress soon after the Civil War, with a central branch at Dayton, Ohio, the National Home for Disabled Volunteer Soldiers now has branches also at

Milwaukee
Togus, Maine
Danville, Ill.
Hampton, Va.
Leavenworth, Kan.
Sawtelle, Calif.
Marion, Ind.
Hot Springs, S. D.
Johnson City, Tenn.

The Dayton, Milwaukee and Sawtelle branches have special units for tuberculous patients in addition to other facilities; the Johnson City and Marion branches are equipped to care for surgical conditions that may arise in connection with the work for which they have been especially designated, while all other branches have facilities for medical and surgical care of patients. When, in 1920, there was a demand for beds for mental and tuberculous patients, the Marion branch was converted into an institution for neuropsychiatric patients, and the Johnson City branch (which has 1,114 beds) was converted for the care of tuberculous patients. Persons that may be admitted to these homes on the order of members of the board of managers include honorably discharged officers, sailors or marines of the regular, volunteer or other forces of the United States, or of the organized militia or national guard when called into federal service, who are disabled by disease or wounds and who have no adequate means of support and who by reason of their disability are incapacitated from earning a living. Ex-service women honorably discharged from army, navy or marine corps may also be admitted; a portion of the Danville branch has been set aside for the domiciliary care of ex-service women, and a portion of the Milwaukee branch for those who have tuberculosis. The home is maintained by federal appropriations, and the President, the chief justice and the secretary of war are managers ex officio. Gen. George H. Wood, whose office is at the Central branch, Dayton, Ohio, is president of the home.

LATIN AMERICA

Personal.—The *Revista de Ciencias Médicas* of Buenos Aires relates that Dr. B. González has been elected governor of the province of Corrientes, and that Señora Elvira Rawson de Dellepiane, M.D., has been appointed member of the national board of education.——Dr. L. Velasco Blanco, Buenos Aires, is in the United States to attend the annual session of the American Medical Association at Dallas, Texas, and to be a delegate from Bolivia, his native country, to the Red Cross conference at Washington.——Dr. F. Banda has been made rector of the University of Guadalajara.——The president of Peru and Dr. S. Lorente, the president of the public health service and director of the Junta de Defensa de la Infancia, selected Dr. Paz Soldán to be director of the National Child Welfare Institute and training school for visiting nurses, recently inaugurated at Lima.

FOREIGN

British Association Sells Former Headquarters.—The New Zealand government has purchased the former headquarters of the British Medical Association on the Strand, London, for about £200,000, which, the London *Times* states, is the highest price yet obtained for property of that size on the Strand. The property is located where values have increased rapidly in the last two years.

Personal.—Prof. D. Giordano, president of the seventh International Surgical Congress, which convened at Rome, April 7, was accompanying Premier Mussolini to his carriage following the inaugural meeting which the latter had opened, when Mussolini was shot by an assailant. Giordano, it is reported, was responsible for diverting the aim so that the injury was not more serious. The *Gazette hebdomadaire des sciences médicales* relates that Professor Hartmann, president of the French section of the international society, introduced the resolution to readmit the surgeons of the central powers when the latter have been admitted to the League of Nations.——Dr. A. Missiroli is in charge of the Malaria Experimental Research station at Rome, which is partially financed by the International Health Board.——Our Paris exchanges state that Prof. A. Pettit of the Institut Pasteur, Paris, has been deputed by the French government to organize a similar Pasteur institute at Montreal at the request of the University of Montreal, of which it will be a department.——Prof. Martinez Vargas, Barcelona, presided at the recent tenth International Child Welfare Congress which recently closed its sessions at Madrid.——The University of Cologne has conferred an honorary degree on Prof. O. Lanz, Amsterdam.——Drs. E. Freund and G. Kaminer, Vienna, have been awarded the 1925 prize of the Austrian Anticancer Society.——Dr. M. R. Castex, professor of clinical medicine, Buenos Aires, gave an illustrated lecture on "Iodine Solutions in Exploration of Internal Organs" before the Berlin Medical Society, last month.——Dr. K. Sudhoff, professor of the history of medicine, Leipzig, has been elected to honorary membership in the Royal Society of Medicine, in London.——Professor Jeanneney, Bordeaux, has been sent by the French government to Italy to study the campaign against cancer there.——Dr. William Rankin has been appointed to the chair of surgery at the Anderson College of Medicine, Glasgow, Scotland, and Dr. S. Spence Meighan to the chair of ophthalmic medicine and surgery.——Dr. Charlotte Ann Douglas has been appointed to be a medical officer to the Scottish Board of Health, to succeed the late Dr. Mary J. Menzies.——Dr. William E. Gye, London, England, has been awarded the Walker prize by the Royal College of Physicians.

Deaths in Other Countries

Dr. T. **Jonnesco**, Bucharest, dean of the medical faculty, a pioneer in cervical sympathectomy and general anesthesia by intraspinal technic, aged 66.——Dr. D. M. **Mainini**, Buenos Aires, killed in an automobile accident.——Sir Harry Brookes **Allen**, professor of pathology and dean of the faculty of medicine, Melbourne University, Melbourne, Australia, formerly editor of the *Australian Medical Journal;* a member of the Central Board of Health; president of the Royal Commission on the Sanitary State of Melbourne; president of the Australian Medical Congress in 1908 and member of the executive committee, International Medical Congress, 1913, aged 71.——Dr. W. K. **Law**, brother of the late Mr. Bonor Law, at Londonderry, aged 73.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 16, 1926.

Opticians Attempt to Obtain Registration

After the osteopaths, the opticians have attempted to obtain recognition, with similar result. Mr. Chamberlain, the minister of health, received a deputation from the "Joint Council of Qualified Opticians," with which was associated the British Optical Association, to discuss a private member's bill to secure the registration of optical practitioners and to regulate the practice of sight testing and optical dispensing. The opticians claimed competence to deal only with errors of refraction and to detect functional abnormalities requiring specialist treatment by an ophthalmic surgeon, and it was a condition of the diplomas granted to opticians by their organizations that all cases of functional abnormalities should be referred to a medical practitioner. It was claimed that they had therefore done all that the minister, in speaking of Dr. Graham Little's motion about the registration of osteopaths in the House of Commons, had advised osteopaths to do, before claiming the right to prohibit unregistered practice. They had already established a college, a hospital and diplomas. Legislation similar to that which was proposed was already in force throughout practically the whole of the British Empire and the United States. The bill would be a protection against charlatans, and would put an end to the conflict of views that had arisen between the opticians and the physicians. The minister said that the bill as drafted would debar physicians from treating defects of vision. This was perhaps not an insuperable difficulty, but he doubted whether any amendment that would remove it would leave the bill in a form acceptable to the opticians. But the whole difficulty was that defect of vision might be due to simple errors of construction in the eye itself which can be corrected mechanically by glasses; to disease in the eye needing treatment apart from the provision of glasses; or diseases not localized in the eye but due to a pathologic condition in the body. If a case was not rightly classified, very serious injury to the patient might ensue. He was also not satisfied that the optical board, proposed in the schedule to their bill, would secure the qualification only of persons competent to recognize disease, and he pointed out that eighteen of the twenty-five members of the proposed board were to be opticians. It was not possible to argue from conditions in one country to those in another. Conditions in the dominions were entirely different. There were vast territories with relatively small and widely scattered populations that could not all be served by physicians. He admitted that he had some sympathy with their claim that persons who had properly qualified themselves to treat errors of refraction not requiring medical attention should have a special label, and he would like to meet this point. The difficulty out of which he could not see his way was how patients suffering from simple errors of refraction could be distinguished from those in whom defect of vision was due to some pathologic condition.

Death Registration Bill: Safeguard Against Concealment of Crime

A bill to amend the law relating to certification of deat and the disposal of the dead came before a standing con mittee of the house of commons. The object is to rende more complete the safeguards afforded by the law of regi tration in relation to the disposal of the dead, so as to eli nate as far as possible the risk of the concealment of

Provision is made for enabling local authorities to arrange for the medical inspection in certain instances of the bodies of deceased persons, and stillbirths are required to be registered as a measure of additional safeguard for the protection of infant life.

The Medical Aspect of Birth Control

The medical committee of the national birth rate commission is holding an inquiry into birth control. The terms of reference are as follows: 1. It is recognized that there are many aspects of the question of conception control; this inquiry is limited to its medical aspects. 2. In using the term "medical," it is intended to make an investigation into the restriction of families by whatever method it is accomplished and its effects on the bodily and mental health of the individuals concerned. 3. Under the term "health" are included the relevant biologic (physiologic and psychologic) factors that affect the normal life. 4. Among the particular problems which it is proposed to investigate are the effect on health of sexual abstinence, partial or complete, in married life, and the effect of the use of various contraceptives on the subsequent fertility and health of the persons concerned. The members of the committee include many well known persons in the medical world, including Prof. Leonard Hill, director of the department of applied physiology of the medical research council; Dr. A. E. Giles, gynecologist; Dr. Mary Scharlieb and Prof. F. H. A. Marshall of Cambridge University. The committee is sending out a questionnaire to gynecologists throughout the country and is to hear representatives of medicine and physiology.

Physicians and Publicity

Some controversy is going on in the lay press on the question of signed articles by physicians, in which the British Medical Association and the New Health Society figure. The official policy of the British Medical Association on the question of publicity in the profession is indicated in a report adopted at the annual meeting last July, of which the salient clause reads: "From time to time there are discussed in the lay papers topics which have relation both to medical science and policy and to the health and welfare of the public, and it may be legitimate, or even advisable, that medical practitioners who can speak with authority on the question at issue should contribute to such discussions. But practitioners who take this action ought to make it a condition of publication that laudatory editorial comments or headlines relating to the contributor's professional status or experience shall not be permitted; that his address or photograph shall not be published, and that there shall be no unnecessary display of his medical qualifications and appointments. There is a special claim that practitioners of established position and authority shall observe these conditions, for their example must necessarily influence the action of their less recognized colleagues. Discussions in the lay press on disputed points of pathology or treatment should be avoided by practitioners; such issues find their appropriate opportunity in the professional societies and the medical journals." The New Health Society agrees with the British Medical Association in the difficulty of prohibiting any contributions from the medical profession to the press which give advice or express opinions with regard to this or that method of treatment. It is impossible for an uninstructed public to estimate the real value of any such method. With regard, however, to the spreading of knowledge of the simple measures necessary for the preservation of personal health, the society considers the position to be very different. Such knowledge, it says, is now entirely agreed on by the medical profession, and if put into practice by the people at large the standard of health of the whole community would undergo an extraordinary rise, and knowledge of the laws of health would be spread far and wide.

BUCHAREST

(From Our Regular Correspondent)

April 3, 1926.

Auto-Infection from Vaginal Secretions

The normal vaginal secretion is antiseptic by virtue of its lactic acid content. The cervical secretion, on the other hand, is neutral or alkaline and forms an admirable culture medium for bacterial growth. Since the acidity of the vaginal secretion disappears during the puerperium, it seems a wonder that infection does not always occur. After experiments, Professor Marinescu concludes that the vaginal secretions during the puerperium destroy organisms by phagocytosis, and that bacteria existing in the passages before parturition can gain a foothold in the tissues only if the passages are injured during labor.

Regulation of the Purity of Food

The examination of foods and beverages is in the hands of an analyst, whose duty is limited to reporting on specimens submitted to him. He has no advisory functions, and he is not brought into contact with the local government board, whose control is, under present conditions, entirely nominal. Professor Ganea suggests that the local government board should employ an expert skilled in analysis and having expert knowledge of the manufacturing processes employed in the preparation of food and drink. Aided by a staff of trained inspectors, it should be his duty to exercise general supervision, not only over the sale of foods but also over their manufacture or importation. He should further lay down standards for the sale of foods and drugs, and the local government board could thus impose uniform standards on the various local authorities.

The Health of Bucharest

Computed on a yearly basis, the death rate in Bucharest in the last quarter of the preceding year was 18.7 per thousand. The mean rate during the corresponding periods of the last six years was 23.9. Apparently, the drop is due to the improvement in economic and financial conditions. A large proportion of the deaths in Bucharest are due to diseases of the respiratory system. The crux of the health question in Bucharest is, of course, the housing problem. The municipality and voluntary bodies are supplanting condemned tenements by sanitary dwellings. Their efforts are, however, on such a small scale as yet that they are only experiments.

An Unusual Case of Bradycardia

Dr. Schmidt showed a case of bradycardia in the Targulmure Medical Union. For three months the patient had suffered from peculiar attacks, which have increased in frequency, up to ten or twelve in a day. The patient becomes suddenly giddy, unconscious and pale, the head is stretched backward and the pulse slows to 48, 42 and 36. These attacks pass off in a short time. There is widening of the heart, the apex beat is heaving, and the first sound is dull, with a minimum capillary pulse. The symptoms of locomotor ataxia are progressing. All symptoms were dependent on a common cause: syphilis.

Rectal Feeding in Gastric Ulcer

In the *Praxis Medici*, Dr. Vasilescu has a paper on rectal feeding in gastric ulcer. He says that a wound heals the more rapidly the less its edges gape. An ulcer of the stomach heals the more rapidly, therefore, when the stomach is contracted. It is in a state of greatest contraction when hunger is felt. It has been shown clinically that human life can be sustained for weeks by rectal feeding. Kleinberger mentions a case in which a man was fed exclusively by the rectum for seventy days. No hyperchlorhydria is present in an empty stomach. The usual nutrient enemas do not excite gastric secretion, but it would be as well to omit red wine as an addition to the enemas. Vasilescu's patients were under treatment for two months. Altogether, two patients died. The weight, blood pressure and pulse curve sank moderately. The lowering of blood pressure did not usually exceed 30 mm. The hemoglobin appeared to diminish only when the bleeding continued. The erythrocytes remained constant or rose slowly. They sank only when hemorrhage was severe and continuous. Screen examination of the patients revealed that healing is quicker under extrabuccal treatment than by any other method.

GENEVA

(From Our Regular Correspondent)

April 7, 1926.

History of Police Control of Prostitution

March 25, Dr. C. G. Cumston addressed the Geneva Medical Society, on "The History of Police Control of Prostitution from the Biblical Epoch to the end of the Eighteenth Century." The lecturer showed that prostitution was rampant in the days of the patriarchs and the prophets, but that the Hebrews never exercised legal control over it. Solon, in ancient Greece, was the first to give laws controlling debauchery; these were severe, as the lecturer showed by many quotations from the texts. Police control of prostitution was brought from Greece and Asia to ancient Rome by the armies, 189 B. C. Landlords of brothels were obliged to obtain a license from the ediles, and before exercising their profession courtesans were compelled to make a declaration of their intention to the ediles. The female inmates of public houses (*lupanaria*) were called "wolves" in order to show contempt. There were at this time forty-five brothels in different parts of Rome. The wolf who suckled Romulus and Remus and served as the emblem of Rome was a prostitute.

With the exception of Constantine (320 A. D.), the Christian emperors attempted to abolish prostitution, but without avail. Charlemagne, more powerful than his predecessors, made the first French law absolutely prohibiting prostitution and considering it a misdemeanor. The law is in the Capitularies (800 A. D.) and prescribes severe corporal punishment, not only of the offender but of the landlord of the house in which she lived as well.

During the feudal period, prostitution knew no bounds, not only in cities but also in the country, on account of soldiers who scoured the land. St. Louis, by his law of 1254, made a fruitless attempt to do away with this plague.

In 1161, parliament held at Westminster, in the reign of Henry II, delivered a decree regulating the bath houses, which were the rendezvous of prostitutes in those days. The lecturer stated that from his researches he was inclined to believe that this document is the first that refers to venereal disease.

Among the many decrees referred to by the lecturer may be mentioned that of the prefect of Paris, in 1360, prohibiting prostitutes from wearing fine clothes or jewelry, and in 1367 a decree obliging them to live in brothels and parts of the city allotted to them. Coming to the year 1802, we have the law of March 3, which, besides police control, for the first time orders periodic medical examination of prostitutes.

Hereditary Memory

Hereditary memory, as a subject recently discussed by Léon Daudet, is worthy of attention. According to Daudet, Bergson's intuitivism depends on the ancestral form of human memory residing in the cerebellum, which acts as a transferring and transforming agent. The few experiments so far undertaken on the cerebellum show that it is the mnemonic regulator (resulting from congenital memory) of the upright position, circular movements and, in general, of all special components of the human mind. It seems destined to transmit mental images derived from parents and ancestors to the real images of the living person. Hence the images will either be reinforced or dwarfed, if not interfered with, by congenital reminiscences belonging to the same category or to a closely allied category. In other words, Daudet admits in the waking dream a complete hereditary syndrome issuing from hereditary memory. The constant gravitation of the mind and the circulation of mental images explain how a jet of hereditary memory, reinforcing a present sensation, may procure us the aura of the future.

Hospitalization and Tuberculosis

Dr. Bauer of Neuchâtel delivered a remarkable address to the Swiss Antituberculosis Association at its recent meeting on "The Rôle of the Hospital in Antituberculosis Prophylaxis." In France the total number of cases of tuberculosis is 600,000 of which 150,000 are dangerous to others. In Switzerland, according to Ganguillet's statistics, there are, in all, about 50,000 tuberculous patients, 12,000 of whom are capable of infecting others. The ideal method of isolation of infectious tuberculous patients is hospitalization, but if carried out absolutely would present objections. The decrease of the morbidity from tuberculosis is in a way related to the number of beds placed at the disposal of these patients. Denmark, with a population of 3,300,000, has thirty-five tuberculosis hospitals (total, 1,016 beds), sixteen sanatoriums with a total of 1,385 beds, four asylums totaling 132 beds, and five establishments for convalescents, representing 3,458 beds. Hence, Denmark has 109 beds for each hundred deaths annually from tuberculosis. The number of tuberculosis cases in hospitals in 1921 was 8,044, and 70 per cent of deaths from this disease occurred—at least in Copenhagen—in hospitals. The total death rate from tuberculosis in this country has dropped to 9.44 per 10,000 inhabitants.

In France (40,000,000) there are fourteen tuberculosis hospitals, with a total of 2,995 beds. In the general hospitals the total number of beds reserved for tuberculosis cases is 4,296. Hence the total number of beds is 7,291, or eighteen beds per hundred thousand inhabitants. The latter figure does not include the beds in sanatoriums, as their number is not known. The total mortality from tuberculosis in France is 23 per 10,000 inhabitants.

In Switzerland, the number of beds in the many sanatoriums is not known. However, according to Ganguillet, the general hospitals have eighty-seven beds reserved for tuberculosis cases per hundred thousand inhabitants, and sixty-four per hundred thousand in the free public sanatoriums. There are about 250 indigent contagious cases per hundred thousand inhabitants. Hence the hospitals offer a total of 3,300 beds and the free sanatoriums 2,500 beds, a total of 5,800 beds. The death rate in Switzerland from tuberculosis is 16 per 10,000 inhabitants, making a total of 6,500 deaths. Therefore, generally speaking, the hospital treatment of patients is in a fairly satisfactory condition.

These few statistics are interesting, as they tend to prove that the death rate from tuberculosis is in a high degree influenced by hospital treatment of contagious tuberculosis. But many patients are prejudiced against hospitals. Propaganda by the medical profession would greatly help removing this prejudice. Finally, there is a category of "ultrachronic" cases that are contagious and in which hospitals can render useful, if only temporary, service, because continuous hospitalization for these patients is practically impossible. Two solutions offer themselves for the prophylaxis of these patients; namely, either to put them in hospitals for incurables or treat them at their homes under the supervision of dispensary physicians and send them to hospitals whenever the chronic tuberculous process shows signs of activity.

PRAGUE

(From Our Regular Correspondent)

April 1, 1926.

Social Insurance Lectures

The Committee on Social Medicine of the Young Generation of Czechoslovak Physicians held lectures on social insurance last month. As in most countries, the Czechoslovak medical profession and the insurance authorities have not always been in accord. The two parties differed on the aim which insurance societies are to fulfil.

Prof. F. Prochazka, in his introductory lecture to the series, described this conflict. The insured were less interested in the medical than in the cash benefit. Political parties, especially the social democrats, early used the officials of the insurance societies as political agents. As a result, very little of the funds remained for disbursement for medical services. The insurance system has reduced private practice to a minimum, but the income of the medical profession as a whole has been increased. At present, the medical profession is fighting for free organized choice of physicians instead of the present system of fixed medical officers of the insurance societies. In the discussion it was brought out that scientific and professional matters should be separated from financial considerations and the medical profession should be interested in both.

The second lecture was concerned with dispensaries. It is to the interest of specialists that the insurance dispensaries be limited. The objection that the medical profession brings forward against insurance dispensaries is that they obscure the individual and bring before the physician a mass of patients which he is seldom able to master. The medical profession would agree to the establishment of diagnostic dispensaries only when no treatment would be given except that which requires apparatus such as could not be installed in the private surgery of a physician. There is considerable diversity of opinion among physicians on this point. The group interested in preventive medicine holds that dispensaries make the services of a specialist available to patients who otherwise could not have them.

Prof. F. Hamza, in the third lecture, spoke on the rôle which insurance should play in preventive medicine. One of two courses can be followed: Either the insurance system can build its own institutions for combating disease or it can use and contribute to the dispensaries, sanatoriums, etc., which have been erected by other organizations. The second possibility seems to be the only logical one. Such a policy, furthermore, would aid many private institutions now in need of funds.

The subject of the next lecture was the establishment of chief medical officers in the insurance bodies. According to the law, physicians have no right to be represented in the official machinery of the insurance bodies. Thus, the advice of an expert in many purely medical questions was not available. As a remedy, some of the insurance bodies have appointed chief medical officers whose task it is to supervise the work of the medical officers and to render decisions in cases of doubt. This institution, for various reasons, has created friction, and the consensus was that it could be further developed. These medical officers should be employed by the insurance bodies on a full-time basis in order to avoid conflicts with practicing physicians.

The fifth lecture was given by V. Johannis, director of the Federation of Insurance Societies. Mr. Johannis always stood against the wishes of the physicians in insurance. It was the first time that a representative of insurance authorities appeared before a meeting of physicians in order to discuss with them the questions of insurance practice. Mr. Johannis announced a new spirit which is slowly gaining ground in the insurance scheme and which puts medical benefit ahead of other interests. At present the insurance societies are confronted with the enormous cost of remedies prescribed by the physicians. This is due to waste in prescribing. Owing to overcrowding, insurance officers prescribe without thorough examination in order to get rid of patients as quickly as possible. Consequently, patients have come to expect as many medicines as possible. The prescribing of "patent medicines" in recent years has further increased this item. Another source of wastage is that many of the insured go to the physician knowing that they do not need medical treatment but with the object of obtaining a cash benefit. Such a patient discards medicine given to him. This whole problem, according to the lecturer, lies in the hands of the insurance medical officers. Although he did not speak directly about free choice of physicians, he declared it impossible for the present to increase expenditures by new arrangements. As old age and invalidity insurance will go into effect, July 1, fees paid by the insured will be cut down.

Another lecture dealt with medical activities in accident insurance, and another one presented a scheme for the reform of the pensions insurance system. The conclusions arrived at in the meetings were embodied in the form of resolutions. The general tone of the discussion between the conflicting interests was conciliatory.

Ministry of Health

The political crisis of March 18 brought about the resignation of the minister of health, A. Tucny. The program that he announced at the time of his entry into office favored the medical element in the ministry of health. In the new cabinet, no minister of health was appointed and the minister of social welfare, J. Schiesl, was charged with the direction of the ministry of health. This measure does not mean yet the abolishing of the ministry of health but is unquestionably a step in this direction. A ministry, according to the constitution, can be abolished only by a special law. A few days ago it was announced that the clerical party had submitted to parliament a law for abolishing the ministry of health which has a great chance of being accepted. Although protests will be registered against this measure, especially from the medical profession, those who could follow closely the work of the ministry of health agree that combination with the ministry of social welfare is a sound measure. The fields of these two ministries overlap, and consequently many disputes ensued which hampered the work. The new minister is strongly in favor of combination of the two ministries.

Conference on Relationship of Social Insurance to Preventive Medicine

March 18, an international conference on the relationship of social insurance to preventive medicine was opened in Prague under the presidency of Dr. F. Boudrau of Ohio, who is at present assistant director of the health section of the League of Nations. The conference was attended by Dr. A. Foramiti of Austria, Dr. V. Chodzko of Poland, Dr. G. Gortway of Hungary and Dr. A. Savel of Germany. Czechoslovakia was represented by Dr. J. Riha. Drs. O. Olsen and E. Tomanek of the secretariat of the League of Nations and Dr. L. Mitchell representing the International Health Board of the Rockefeller Foundation also attended the conference. The conference drew up the outline of a study of social insurance and preventive medicine to be carried out by the representatives of the committee in the different countries. The study will be accompanied by an analysis of the health administration of the capitals of the states under study. The appraisal form prepared by the American Public Health Association for the study of municipal health departments will be used for this purpose.

BERLIN

(From Our Regular Correspondent)

March 27, 1926

Observations on the Habits of Ants

In the current number of the *Deutsche medizinische Wochenschrift*, Privatdozent Dr. Eidmann has an article on "psychic" or "mental" qualities of ants. In order to study the "language" of ants, Eidmann constructed a large upright ant-nest of plaster of paris, which was provided with glass walls, through which, as in a beehive, a captured large colony of *Myrmica rubra* (a common species in Germany) could be carefully observed and all the details of intercommunication noted.

If one puts a bit of food — for instance, a dead insect — in the vicinity of the ant-nest, only a short time will usually elapse before one of the workers ranging about, a "scout," will discover the booty. The worker, having convinced herself through the application of the antenna of the genuineness of the find, drags it off in the direction of the nest, where it is received and disposed of. But, if the scout is unable unassisted to manage her find, she returns to the nest to sound an alarm. Her mode of operation, on reaching the nest, is to run about in an excited manner, crossing antennae with all the comrades she chances to meet. The ants thus informed of the scout's discovery scurry forth in quest of the prize. In a short time, sufficient aid has assembled to accomplish the task of carrying the booty back to a place of safety.

To test the ant's sense of duty, the observer placed an enticing morsel, a bit of honey, in the path that was being worn between the dead insect and the nest. Tarrying only for a moment to take a sip of the honey, the ants continued their work, and did not consume the honey until their appointed task was completed.

The ant queen is enabled after impregnation to found a new colony unaided. This mode of colonization is referred to as being autonomous.

Eidmann observed the autonomous method of colonization among our largest species, *Camponotus ligniperdus* Latr. June 10, 1924, he placed a pregnant female in a small three-chambered, upright nest, made of plaster of paris. Here the queen shut herself off from the outer world by stopping the entrance to the lower darkened chambers of the nest with a wad of cotton. After a short time, she laid a bundle of fourteen eggs, from which the larvae were hatched. May 29, the first worker came forth. The nest was kept moist but up to this time, the queen had not partaken of food. Nevertheless, she had been able not only to satisfy the metabolic exchange of her own body but to raise a whole group of larvae. The queen was compelled to take the entire food consumption that she and her brood required from the reserves of her own body.

For the observation of the dependent form of colonization, Eidman placed a fertile female of *Formica sanguinea* Latr. in a large nest that contained a small colony of *Formica fusca* L., the common slave-ants, consisting of twenty workers and 100 pupae. After a short time spent in reconnoitering, the queen pressed forward into the lower chambers of the nest where the *fusca* workers were and where the pupae were stacked up. She incited the first worker she met to combat, and retreated to the upper chamber, followed by the enraged worker. Here she turned on the worker and promptly bit her to death. Immediately the queen rushed back into the lower chambers to renew the combat, and pursuing the same tactics had soon killed the superior force.

From the pupae that the queen now had in her possession, a large number of *fusca* workers developed, became her willing slaves, and assisted her in raising her own brood.

Marriages

ROBERT THEODORE LUCAS, Shreveport, La., to Miss Ruth Romaine Dudley of Plano, Texas, March 23.

GEORGE FRANKLIN FARMAN, Los Angeles, to Miss Mary Inslee Franklin of Tucson, Ariz., March 16.

ROYSE DAVIS, Decker, Ind., to Mrs. Elizabeth Oexmann of Vincennes, at Evansville, March 8.

Deaths

Lee Masten Francis ⊕ Buffalo; Rush Medical College, Chicago, 1901; member of the House of Delegates of the American Medical Association, 1920 and 1921; the American Academy of Ophthalmology and Oto-Laryngology (secretary, 1911-1918, president, 1919-1920), the American Ophthalmological Society, and the Buffalo Ophthalmologic Club; assistant professor of ophthalmology, University of Buffalo Department of Medicine; on the staff of the Buffalo General Hospital; served during the World War; aged 48; died suddenly, of cerebral hemorrhage, April 22, at Dallas, Texas, while attending the annual session of the American Medical Association.

Lucius Wales Hotchkiss ⊕ Santa Barbara, Calif.; Medical Department of Columbia College, New York, 1884; member of the American Surgical Association and the American Society of Clinical Surgeons; president of the Santa Barbara County Medical Society; professor of clinical surgery at his alma mater; consulting surgeon to the Roosevelt, Bellevue and Knickerbocker hospitals, New York, Greenwich (Conn.) Hospital, St. John's and St. Joseph's hospitals, Yonkers; aged 66; died, April 11.

Charles Stuart Moody ⊕ Rigby, Idaho; Central Medical College of St. Joseph, Mo., 1900; past president of the Idaho State Medical Association; for several years a member of the state legislature; Spanish-American War veteran; served as adjutant general for the state of Idaho and as major in the M. C., U. S. Army, during the World War; aged 56; died, April 22, following a cholecystectomy.

Berten M. Davey ⊕ Lansing, Mich.; Detroit College of Medicine and Surgery, 1905; past president of the Ingham County Medical Society; on the staffs of the State Industrial School Hospital, 1910-1921, St. Lawrence Hospital, 1924-1925, and Sparrow Hospital, 1914-1925; formerly member of the city board of health; aged 44; died, April 10, of lobar pneumonia.

Fred Julius Fassett, Los Angeles; Medical School of Harvard University, Boston, 1906; member of the Washington State Medical Association; served during the World War; formerly on the staffs of the Children's Orthopedic Hospital, Kings County Hospital and the General Hospital, all of Seattle; aged 49; died, March 24.

Elonzo A. Whitlow, Scottsville, Ky.; University of Louisville School of Medicine, 1907; member of the Kentucky State Medical Association; past president of the Allen County Medical Society; aged 49; died, April 3, at the Blackburn Hospital, Bowling Green, of a skull fracture received in an automobile accident.

Theodore J. Doerderlein ⊕ Chicago; Medical Department of the University of Illinois, Chicago, 1894; member of the Chicago Gynecological Society; on the staff of the Grant Hospital and formerly on the staff of the Deaconess Hospital; aged 54; died, April 7, of carcinoma of the stomach.

Lefferts A. McClelland ⊕ New York; Long Island College Hospital, Brooklyn, 1885; member of the American Academy of Ophthalmology and the American Laryngological, Rhinological and Otological Society; aged 62; died, April 12, at his home in Brooklyn, of cerebral hemorrhage.

George Bevan Hope, New York; Bellevue Hospital Medical College, New York, 1875; member of the Medical Society of the State of New York; medical superintendent of the Metropolitan Hospital and on the staff of the Harlem Hospital; aged 79; died, April 18, of heart disease.

Charles Francis Adams ⊕ Hackensack, N. J.; Homeopathic Medical College of the State of New York, 1884; served during the Spanish-American War, when he received the Congressional Medal; on the staff of the Hackensack Hospital, where he died, April 21, aged 69.

Charles H. Gubbins, Philadelphia; Medico-Chirurgical College of Philadelphia, 1888; formerly professor of pharmacy and materia medica at his alma mater; for many years on the staffs of the Willis Eye, and Polyclinic hospitals; aged 71; died, April 16, of cerebral hemorrhage.

Forrest A. Chenoweth, Winchester, Ind.; Medical College of Ohio, Cincinnati, 1886; member of the Indiana State Medical Association; formerly member of the county board of health; aged 68; died, April 14, of angina pectoris and lobar pneumonia.

Frank L. Lewis, Atlantic, Pa.; University of Pittsburgh School of Medicine, 1896; member of the Medical Society of the State of Pennsylvania; for sixteen years served as justice of the peace; aged 54; died, March 28, of pneumonia.

Hubert Wadlington Harris ⊕ Cleveland, Tenn.; University of Tennessee College of Medicine, Memphis, 1917; served during the World War; on the staff of the Speck Hospital; aged 31; died, March 29, following an appendectomy.

Jesse Leonti Bliss ⊕ Holyoke, Mass.; Columbia University College of Physicians and Surgeons, New York, 1896; for several years on the staff of the Providence Hospital; aged 55; died, April 11, of heart disease and arteriosclerosis.

Alexander MacNeill, Summerside, Prince Edward Island; McGill University Faculty of Medicine, Montreal, Que., 1883; on the staff of the Prince County Hospital; aged 73; died, February 7, of carcinoma of the pancreas.

Allen P. Banfield, Catlettsburg, Ky.; Eclectic Medical Institute, Cincinnati, 1876; member of the Kentucky State Medical Association; aged 75; died, April 16, at the King's Daughters' Hospital, Ashland, of pneumonia.

William Bruce Borror ⊕ Morgantown, W. Va.; University of Maryland School of Medicine and the College of Physicians and Surgeons, Baltimore, 1918; aged 46; was killed in his office, April 15, by an assailant.

David Nicholas Alcorn, Sierre Madre, Calif.; Medical Department of the University of Illinois, Chicago, 1892; formerly a practitioner in Wisconsin; aged 69; died, February 11, of chronic cholecystitis.

Maurice Budwig, Cleveland; Baltimore Medical College, 1898; member of the Ohio State Medical Association; formerly on the staff of the Mount Sinai Hospital; aged 49; died, April 19, of heart disease.

Carl F. Wolfer, Louisville, Colo.; University of Colorado School of Medicine, Denver, 1890; formerly member of the board of education; aged 71; died, February 3, at Boulder, of cerebral hemorrhage.

Robert Bennie ⊕ Sault Ste. Marie, Mich.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1891; on the staff of the Memorial Hospital; aged 63; died, March 29, of pneumonia.

David Henry Keller, Los Angeles; Bellevue Hospital Medical College, 1890; formerly a practitioner in Chicago; served during the World War; aged 58; died, March 22, following a long illness.

Asher C. Taylor, Duluth, Minn.; University of Michigan Medical School, Ann Arbor, 1874; member of the Minnesota State Medical Association; aged 78; died, April 21, of cerebral hemorrhage.

John Montague Rose ⊕ San Francisco; College of Physicians and Surgeons of San Francisco, 1912; aged 57; died, April 19, of cardiovascular renal disease and bronchopneumonia.

Daniel Holton Eaton, Kalamazoo, Mich.; University of Michigan Medical School, Ann Arbor, 1905; member of the Michigan State Medical Society; aged 46; died, April 11, of pneumonia.

Isaac Lewis Potter, Ackley, Iowa; State University of Iowa College of Medicine, Iowa City, 1871; Chicago Medical College, 1877; formerly a druggist; aged 80; died, April 4, of influenza.

August Edward Greene, Vincennes, Ind.; Medical College of Evansville, 1882; formerly secretary of the board of health of Harrisburg, Ill.; aged 66; died, April 7, of heart disease.

Frederick Schmidt, New York; Cornell University Medical College, 1900; member of the Medical Society of the State of New York; aged 52; died, March 20, of cerebral hemorrhage.

Charles G. Forbes, Washburn, N. D.; University of Michigan Medical School, Ann Arbor, 1886; also a druggist; aged 60; died in April, of heart disease and pneumonia.

James Alfred Pinkerton ⊕ Traer, Iowa; State University of Iowa College of Medicine, Iowa City, 1886; aged 65; died suddenly, April 14, at Iowa City, of cerebral hemorrhage.

Julius Weiss, San Francisco; Medical Department of the University of the City of New York, 1881; aged 67; died, April 2, of cerebral hemorrhage and arteriosclerosis.

Harry Benton Crawford, Beulah, Colo.; Drake University College of Medicine, Des Moines, 1896; aged 61; died, January 27, of carcinoma of the liver and pancreas.

Eli Samuel Beary, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1878; formerly a druggist; aged 75; died, April 8, of heart disease.

David Edward Dudley, Savannah, Ga.; Medical College of Ohio, Cincinnati, 1893; aged 55; died, March 20, at White Bluff, of acute nephritis and acute myocarditis.

John Baxter McLean, Fort Worth, Texas; Vanderbilt University Medical Department, Nashville, 1879; aged 72; died, March 4, of pneumonia, following influenza.

Willis O. Hubbard, Lowville, N. Y.; University of Buffalo Department of Medicine, 1882; member of the Medical Society of the State of New York; died, April 16.

James Hall, Wann, Okla.; College of Physicians and Surgeons, Keokuk, 1880; Civil War veteran; aged 86; died, April 4, of pneumonia following influenza.

John Whitehead ⊕ Salisbury, N. C.; University of Pennsylvania School of Medicine, Philadelphia, 1880; aged 70; died suddenly, April 15, of heart disease.

Malachi Coghlan, *Tensaw, Ala.; University of Alabama* School of Medicine, Tuscaloosa, 1892; aged 65; died in December, 1925, of organic heart disease.

William O. Dunlap ⊕ Sedalia, Mo.; St. Louis Medical College, 1875; aged 82; died, April 17, at the Robinson Sanitarium, Kansas City, of general debility.

William Cole Harrison, Los Angeles; Medical Department, University of Louisiana, New Orleans, 1882; Civil War veteran; aged 84; died, March 27.

Charles J. Lockhart, Owensboro, Ky.; University of Louisville School of Medicine, 1876; member of the Kentucky State Medical Association; died, April 6.

Chandler Robbins ⊕ Boston; Medical School of Harvard University, Boston, 1904; aged 47; died, April 6, at his home in Weston, Mass, of pneumonia.

Lemuel Cornick Shepherd ⊕ Norfolk, Va.; Bellevue Hospital Medical College, New York, 1886; aged 62; died, April 4, of a self-inflicted bullet wound.

Thomas J. McMurtry, Boxley, Ind.; Indiana Medical College, Indianapolis, 1875; aged 84; died, March 25, of pneumonia and heart disease.

William C. Quincy, Lowell, Ind.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1889; aged 77; died, April 1, of paralysis.

George E. Ricker, Wethersfield, Conn.; Hahnemann Medical College of Philadelphia, 1878; aged 83; died, April 4, of cerebral hemorrhage.

Dwight J. Harris, Evanston, Ill.; University of Michigan Medical School, Ann Arbor, 1864; Civil War veteran; aged 88; died, March 23.

Alice Bush, Oakland, Calif.; Hahnemann Medical College of the Pacific, San Francisco, 1891; aged 63; died, January 13, at Shanghai, China.

John Thomas Masterson, Moulton, Ala.; Pennsylvania College of Medicine and Surgery, 1870; aged 80; died, Dec. 15, 1925, of influenza.

Charles W. Culp, Mammoth Spring, Ark.; Memphis Hospital Medical College, 1885; aged 67; died, April 8, of cerebral hemorrhage.

George W. Holt, McLeansboro, Ill.; University of Louisville School of Medicine, 1876; aged 77; died, April 11, of chronic nephritis.

Louis William Grossmann ⊕ New York; Columbia University College of Physicians and Surgeons, New York, 1901; died, April 12.

Lemuel Franklin O'Bryant, Breckenridge, Mo.; Barnes Medical College, St. Louis, 1901; aged 50; died recently, of endocarditis.

John A. Wilkinson ⊕ Hales Corners, Wis.; Milwaukee Medical College, 1902; aged 66; died, April 10, following a long illness.

William F. Crickard, Delaware, Ohio; Cincinnati College of Medicine and Surgery, 1874; aged 74; died, April 4, in Columbus.

John Francis Spearman ⊕ Sharon, Pa.; College of Physicians and Surgeons, Baltimore, 1912; aged 36; died, April 4.

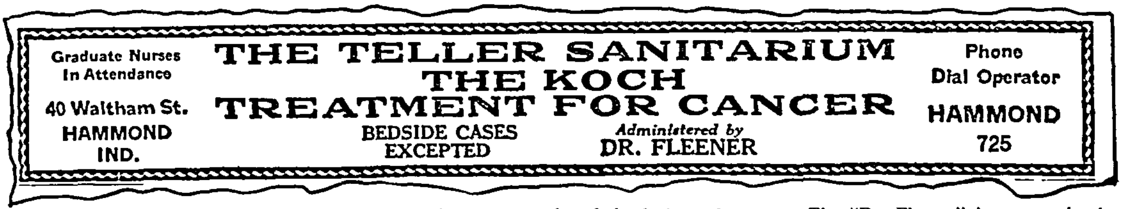
The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

KOCH'S "CANCER ANTITOXIN"

The Present Status of the Nostrum Exploited by William F. Koch

In 1918, William F. Koch of Detroit was graduated in medicine by the Detroit College of Medicine and Surgery. Previous to this he had been an assistant in physiology and an instructor in histology in the University of Michigan Medical School. He also had been professor of physiology in the Detroit College of Medicine and Surgery. Less than a year after his graduation in medicine, Dr. Koch announced that he "had developed a real specific cure for cancer." Dr. Koch's thesis seems to be that cancer is caused by a microorganism resembling the spirochete of syphilis. It is claimed that he has developed a differential poison—"Koch's Synthetic Anti-toxin"—that will destroy the "cancer germ" without injuring the host. His remedy has been described in one place as "a synthetic chemical compound of very definite molecular arrangement" and in another place as a "difficultly prepared synthetic structure, worked down on a recrystallization process"—two descriptions that make up in sonorousness what they lack in clarity.



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Reproduction (reduced) of an advertisement in a recent classified telephone directory. The "Dr. Fleener" is apparently the same individual who for years ran quack advertising offices in other Indiana towns.

Seven years have passed, during which time Dr. Koch has seen fit to keep his secret to himself. During that same time we have been unable to learn of a single instance in which a case of unquestioned malignant disease has been cured by the Koch treatment. On the other hand, we have received information regarding individuals who "promptly died" after taking the treatment.

At different times the Wayne County (Detroit) Medical Society has appointed three committees to investigate Koch's "cure." Each of the three reports has been unfavorable. The last report closed with the statement:

> "In no instance have we found a case where the diagnosis of cancer was absolutely established and where no other form of treatment had been used in which a cure or any decided benefit had ever been obtained."

These facts have been discussed at different times in THE JOURNAL, and the matter is available in reprint form to any who will send a self-addressed, stamped envelop for it. The Koch treatment has been commercialized, and it seems evident that large sums of money have been spent in circularizing the profession and the public in the interest of the "cure."

SOME REPORTS FROM THE FIELD

During the last four or five years THE JOURNAL has received hundreds of letters from physicians and laymen who were inquiring about the Koch remedy. A few of the many letters from physicians and one from a layman made specific mention of individuals who were taking or were thinking of taking the Koch treatment for malignant disease. Recently we collected these letters from the files and wrote to those who had sent them asking for information regarding the outcome of the various cases. We have received answers from most of those to whom we have written, and we give in as few words as possible the essential facts.

Mr. A., Michigan.—Wrote in February, 1924, that his sister was taking treatment for uterine cancer from Dr. Koch. Recorded in March, 1926, that his sister died in Detroit in April, 1924.

Dr. B., New York.—Had three patients who took the Koch treatment: (1) Woman with carcinoma of rectum; "received four injections, reactions were terrible. She did not improve but steadily became worse and died." (2) Elderly man with beginning cancer of stomach; was "given two treatments and promptly became worse and died." (3) A case of axillary carcinoma received many treatments: "Ultimate result was the same—death."

Dr. C., Louisiana.—Wrote in November, 1924, that a friend with cancer of rectum was taking the Koch treatment at Detroit. Reported in April, 1926, that patient died in August, 1925.

Dr. D., Louisiana.—Wrote in November, 1924, that a prominent citizen of his town with malignant disease was under the care of Dr. Koch. Reported in April, 1926, that patient died. Dr. D. adds: "This has been the fate of all [personally] known cancer patients treated with Koch cancer remedy."

Dr. E., Alabama.—Wrote in January, 1925, that several patients suffering from carcinoma were taking the Koch treatment. Reports April, 1926, "All the patients who received the Koch treatment are now dead."

Dr. F., Mississippi.—Wrote in January, 1925, that patient with carcinoma of the stomach had received the Koch treatment. Reported in March, 1926, that patient died five months later. Reports also in his last letter the case of man with carcinoma on the side of the nose; took Koch treatment in August, 1925; at the present time the cancer "is more than twice as large as it was at the time of the treatment." Reports also that another patient with carcinoma of the cheek received the first Koch treatment in August, 1925; the patient is now "down in bed and not expected to live."

Dr. G., Tennessee.—Wrote in February, 1925, of a woman with adenocarcinoma and metastases who took the Koch treatment. Reports April, 1926: "She grew gradually worse, as all such cases do, and died, June, 1925, which is about the allotted time we expected her to live regardless of the Koch treatment." Dr. G. adds, "We had another case here in the city that Dr. ——— [a disciple of Koch] treated and she died very promptly."

Dr. H., Tennessee.—Wrote in February, 1925, that a woman with carcinoma was taking the Koch treatment. Reports in March, 1926, "she died promptly."

Dr. I., New York.—Wrote in September, 1925, that a woman with advanced carcinoma was so desperately ill that he advised her to remain at home. She, however, obtained money with extreme difficulty and paid $300 for one injection. "Came home in a state of extreme exhaustion and died in a few days after her return." The same physician reports another case of a patient with sarcoma who had been given injections at the cost of $500. "He subsequently died after having been advertised as a cure."

Dr. J., Kansas.—Wrote in October, 1925, that a patient with cancer of the tongue had gone to the Koch Cancer Clinic at Detroit. Reported March, 1926, that patient was given one injection, paid a fee of $300, stayed in Detroit for twelve weeks, received another injection, paying $200, remained two weeks longer, then went home and died one week after reaching home. The same physician reports another case, that of a woman with cancer of the uterus on her way to Rochester, Minn, who was induced while in the Union Station at Kansas City to go to a Koch disciple, where she received the Koch treatment. She received three injections, paying $250, although she was "in poor circumstances." Died about one month after the third injection.

Dr. K., Nebraska—Wrote in May, 1925, that "cases of cancer in this vicinity have been treated by means of the (Koch) serum with no results." Reports in April, 1926, on three cases: (1) Sarcoma in boy of 14; took Koch treatment and died. (2) Patient with carcinoma of pylorus; took treatment and died. (3) Patient with carcinoma of rectum with metastases; took treatment and died.

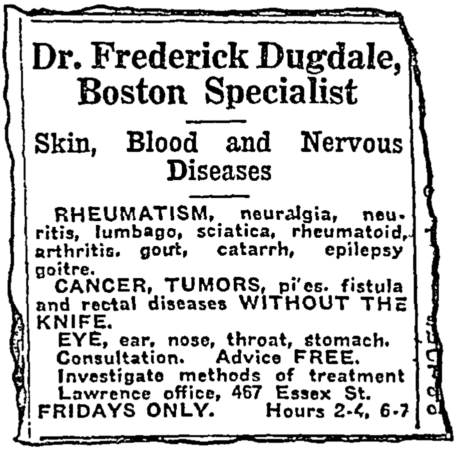
THE KOCH CANCER FOUNDATION

The latest move is the establishment of the imposingly named "Koch Cancer Foundation" with William F. Koch as "Director" This was organized in February, 1926, by the following individuals:

Frederick Dugdale, M D.
C. Everett Field, M D
A. W Hoyt, M.D.
W. Wallace Fritz, M D
Elvora C. Folkmar, M D.
Lorenz L. Dill, M D
Albert Lynch, M D

It may be of interest to present some of the information on file regarding these individuals:

Frederick Dugdale, M D, Boston—Dr. Dugdale was born in 1880 and was graduated in 1903 by the Baltimore Medical College. His activities in exploiting the Koch cancer cure are no matter of surprise When the large economic possibilities of the pseudoscience of Abrams were obvious, Dr Dugdale was one of the disciples of that cult Prior to that he advertised as a "Specialist in Rheumatism, Cancer, Chronic Blood and Nervous Diseases" In 1921 his name appeared as "President of the Allied Medical Association of America" (exposed in The Journal, July 5, 1919). It appeared also as one of the officers of the "Medical Society of the United States," which was originally created to organize fee splitters but later became a "Society of Protest Against the Autocracy of the A M. A." Still later Dr. Dugdale's name was given as Chairman of the Board of Trustees of the "American Association for Medico Physical Research" (exposed in The Journal, Sept 19, 1925)



Dr. Frederick Dugdale, Boston Specialist

Skin, Blood and Nervous Diseases

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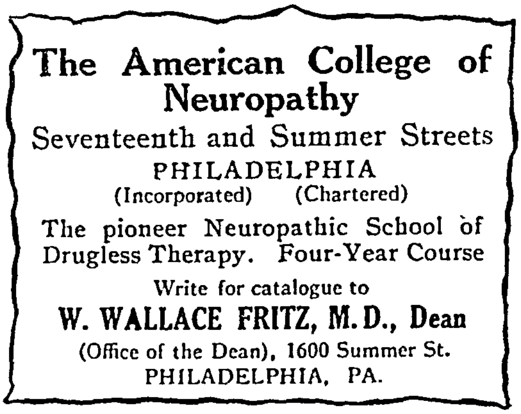
A W. Hoyt, M.D, New York City—According to our records Alpheus Whiting Hoyt was born in 1866 and was graduated in 1895 by the Medical Department of the University of the City of New York. According to the September, 1921, issue of the house-organ of the late quack Albert Abrams, A. W. Hoyt was a disciple of the preposterous Electronic Reactions of Abrams and a lessee of one of Abrams' "Oscilloclasts" Dr Hoyt's professional cards read: "Treatment of Chronic Diseases," and he has sent out announcements stating that he had been "enabled to secure for his practice a medical treatment for what is called inoperable and incurable cancer" and "results warrant the statement that this treatment removes cancer from the incurable class of disease" More recently Dr Hoyt appears to have become interested in the "Auto Hemic Serum" of L D Rogers

W. Wallace Fritz, M D, Philadelphia—According to our records, W. W. Fritz was born in 1872 and was graduated in 1894 by the Medico Chirurgical College of Philadelphia This man sometimes puts after his name the letters M D, D D S, N D, D O, D C, indicating that he is a physician, a dentist, a naprapath, an osteopath and a chiropractor Added to these protean activities, he has been the "dean" of the "American College of Neuropathy" and "Professor of Neuropathy" at the same institution. It seems that when he became "dean" the institution had three students and thirty "faculty members." In 1915, the name of W. Wallace Fritz appeared as the "President of the National Association of Drugless Physicians" Dr. Fritz, for reasons not obvious, is permitted to hold membership in the Philadelphia County Medical Society, and, of course, has taken advantage of this to become a Fellow of the American Medical Association Nevertheless, in 1919, this man's name appeared in connection with the formation of a new organization that was to be founded to fight the American Medical Association—the alleged "medical trust" It was known as the "Constitutional Liberty League of America" and seemed to be a later edition of the defunct "National League for Medical Freedom" W W. Fritz's name has also been given as one of the "censors" and "vice president" of the "Allied Medical Association of America" He, apparently, was a witness in behalf of the quack Brinkler when the government was prosecuting this individual Brinkler, whose fraudulent business was debarred from the use of the mails in 1914 and also in 1916, was again quacking it through the mails in 1925, and his stationery last year declared that his "Medical Director" was W Wallace Fritz!



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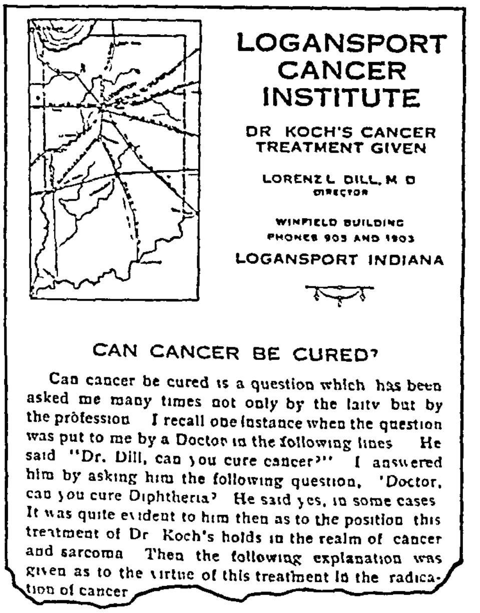
The pioneer Neuropathic School of Drugless Therapy. Four-Year Course
Write for catalogue to
W. WALLACE FRITZ, M.D., Dean
(Office of the Dean), 1600 Summer St.
PHILADELPHIA, PA.

Lawrence (Lorenz) L. Dill, M D, Logansport, Ind—According to our records, Dr Dill was born in 1884 and received a diploma from the University of Michigan Homeopathic Medical School in 1910. He was licensed the same year. Early in 1924, Dr. Dill was puffing the Koch cancer cure It was not long before he was sending out printed cards bearing a map of Indiana that showed how Logansport might be reached and advertising the "Logansport Cancer Institute" According to these cards, Dr Dill was the "Director" of this "Institute" at which "Dr. Koch's cancer treatment is given" The opening paragraph of the card purports to answer the question "Can cancer be cured?" Dr Dill answers the question by analogy. He implies that the Koch nostrum has the same scientific value in the treatment of cancer that diphtheria antitoxin has in the treatment of diphtheria!



LOGANSPORT CANCER INSTITUTE

DR KOCH'S CANCER TREATMENT GIVEN

LORENZ L DILL, M D
DIRECTOR

WINFIELD BUILDING
PHONES 903 AND 1903
LOGANSPORT INDIANA

CAN CANCER BE CURED?

Can cancer be cured is a question which has been asked me many times not only by the laity but by the profession I recall one instance when the question was put to me by a Doctor in the following lines He said "Dr. Dill, can you cure cancer?" I answered him by asking him the following question, 'Doctor, can you cure Diphtheria? He said yes, in some cases It was quite evident to him then as to the position this treatment of Dr Koch's holds in the realm of cancer and sarcoma Then the following explanation was given as to the virtue of this treatment in the radication of cancer

C. Everett Field, M D, New York City—According to our records, Dr Field was born in 1870 and was graduated by the Medical Department of the University of the City of New York in 1891. He does not seem to have practiced until 1913—twenty two years after graduating. He is a member of his local medical society and as such has qualified as a Fellow of the American Medical Association Apparently Dr. Field was for some years connected with the advertising department of the

Glyco-Thymoline concern and later became president of the Holotheol Chemical Co. Still later he appeared as "director" of the "Radium Institute of New York." Becoming interested in the Koch nostrum, this product was given a great deal of newspaper publicity at the time that Dr. Field saw fit to puff it before the "American Association for the Study and Cure of Cancer." The latter organization is not to be confused, of course, with the well-established American Society for the Control of Cancer.

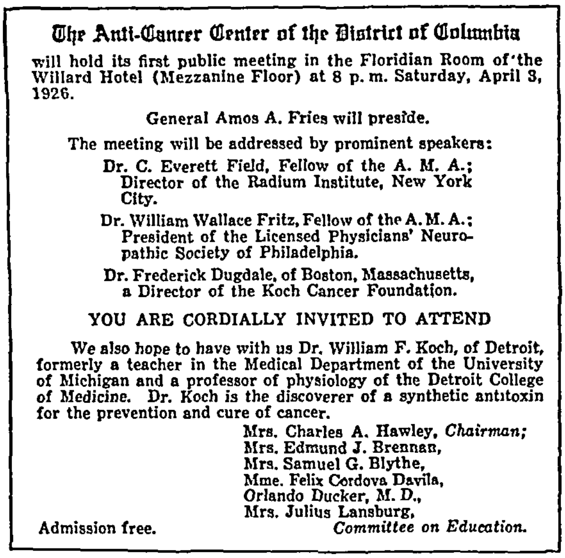
Elnora C. Folkmar, M.D., Washington, D. C.—According to our records, Dr. Folkmar was born in 1863 and was graduated in medicine when she was 46 years old by the George Washington University Medical School at Washington, D. C. In 1919, Dr. Folkmar appears to have been a member of the "Society of Physical Therapeutists," whose scientific status will be appreciated when it is known that on its program appeared the "patent medicine" exploiter George Starr White, the "zone therapy" exponent, Fitzgerald, and others who were to present papers on that preposterous piece of hokum "Bio-Dynamo-Chromatic-Diagnosis." Later Dr. Folkmar's name appeared as a lessee of one of Abrams "Oscilloclasts," and still later as the first vice-president of the egregious "American Association for Medico-Physical Research," which was dealt with in detail in THE JOURNAL, Sept. 19, 1925. Dr. Folkmar's name is also given in a booklet issued by D. V. Ireland (see THE JOURNAL, Dec. 2, 1922) as a specialist in the kind of rectal work taught by Ireland.

Albert Lynch, M.D., Fairbury, Neb.—Dr. Lynch was born in 1869 and received a diploma from the University of Michigan Medical School in 1901. Dr. Lynch seems to have been connected with the Koch organization early in the game, for a booklet purporting to be the report of an investigation by C. Everett Field, which was sent out two or three years ago, stated that Dr. Albert Lynch with Dr. Lorenz Dill, Dr. C. Everett Field and Dr. William F. Koch comprised the "committee" which at that time constituted the organization of "Koch Chemical Treatment Administration."

So much for the personnel of the founders of the Koch Cancer Foundation. There has also been organized "Koch Laboratories, Inc.," which is the sole owner and manufacturer of what Koch calls his "antitoxin." The incorporators of the Koch Laboratories are:

WILLIAM F. KOCH, President and Director
LOUIS KOCH, Vice President and Director
FRED C. KOCH, Treasurer and Director
CLARENCE LEHR, Secretary and Director

The Koch Laboratories, Inc., is evidently well controlled by the Kochs. Mr. Clarence Lehr, the secretary, seems to hold some interesting theses. Some are expressed in a letter recently written by him to a physician in Oklahoma. According to Mr. Lehr, "the American Society for the Control of Cancer is simply the sales agency for the surgeons of this country."



The Anti-Cancer Center of the District of Columbia

will hold its first public meeting in the Floridian Room of the Willard Hotel (Mezzanine Floor) at 8 p. m. Saturday, April 3, 1926.

General Amos A. Fries will preside.

The meeting will be addressed by prominent speakers:

Dr. C. Everett Field, Fellow of the A. M. A.; Director of the Radium Institute, New York City.

Dr. William Wallace Fritz, Fellow of the A. M. A.; President of the Licensed Physicians' Neuropathic Society of Philadelphia.

Dr. Frederick Dugdale, of Boston, Massachusetts, a Director of the Koch Cancer Foundation.

YOU ARE CORDIALLY INVITED TO ATTEND

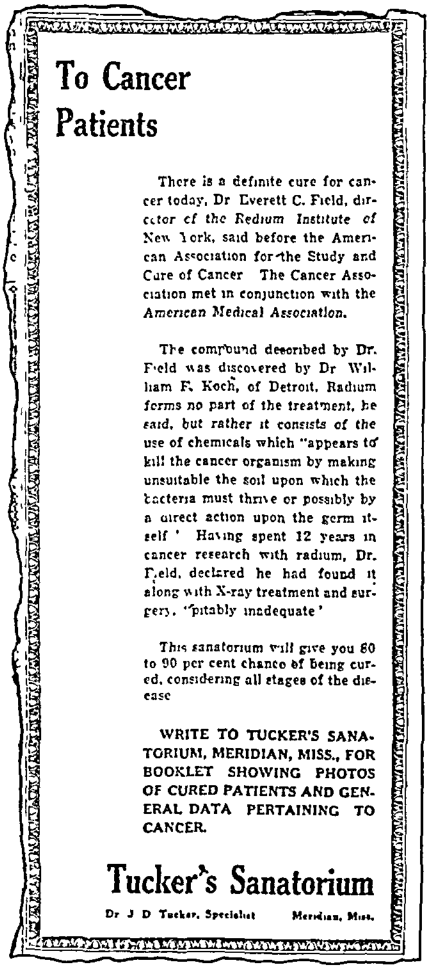
We also hope to have with us Dr. William F. Koch, of Detroit, formerly a teacher in the Medical Department of the University of Michigan and a professor of physiology of the Detroit College of Medicine. Dr. Koch is the discoverer of a synthetic antitoxin for the prevention and cure of cancer.

Mrs. Charles A. Hawley, *Chairman;*
Mrs. Edmund J. Brennan,
Mrs. Samuel G. Blythe,
Mme. Felix Cordova Davila,
Orlando Ducker, M. D.,
Mrs. Julius Lansburg,

Admission free. *Committee on Education.*

More publicity for the Koch nostrum. Note how fellowship in the A. M. A. is capitalized.

It is said that there is a contract between the Koch Laboratories and the Koch Cancer Foundation whereby "the antitoxin will be distributed through the Foundation only to *its Stockholders and Members.*" *Further, the* price of the treatment from the Foundation shall be $110 to both stockholder and member. According to a statement made by Dr. J. W. Stiers of Muscatine, Iowa (who in 1924 was said to be using an apparatus put out by the "Electronic Research Laboratories" and is now apparently using the Koch "antitoxin"), the Foundation "specifies as a *minimum* $300 for the first treatment and $200 for any afterward." The difference between the price charged the Koch disciple ($110) and the price the disciple charges the victim ($300) is presumably to cover the risk assumed by the followers of Koch in injecting a secret *mixture* into the cancer patient.



To Cancer Patients

There is a definite cure for cancer today, Dr Everett C. Field, director of the Radium Institute of New York, said before the American Association for the Study and Cure of Cancer The Cancer Association met in conjunction with the *American Medical Association.*

The compound described by Dr. Field was discovered by Dr William F. Koch, of Detroit. Radium *forms no part of the treatment, he said, but rather it consists of the* use of chemicals which "appears to kill the cancer organism by making unsuitable the soil upon which the bacteria must thrive or possibly by a direct action upon the germ itself ' Having spent 12 years in cancer research with radium, Dr. Field, declared he had found it along with X-ray treatment and surgery. "pitably inadequate '

This sanatorium will give you 80 to 90 per cent chance of being cured, considering all stages of the disease

WRITE TO TUCKER'S SANATORIUM, MERIDIAN, MISS., FOR BOOKLET SHOWING PHOTOS OF CURED PATIENTS AND GENERAL DATA PERTAINING TO CANCER.

Tucker's Sanatorium

Dr J D Tucker, Specialist Meridian, Miss.

Drumming up business for the Koch antitoxin.

The by-laws of the Koch Cancer Foundation provide that only physicians "whose qualifications have met the approval of the Board of Trustees" and who have "treated ten or more cases of cancer by the use of Koch's Synthetic Antitoxin" shall be eligible to become stockholders. The stockholders pay $100, for which one share of stock is issued. "Membership" in the Foundation is to be limited to physicians who are "able to furnish personal and *business* [Italics ours.—ED.] references satisfactory to the Board of Trustees." Such individuals may become members on the payment of a membership fee of $10 and annual dues of $5. Dr. Koch states further that in addition to the funds that will come into the treasury of the Foundation from the sale of treatments, membership fees and annual dues, he expects to purchase "upwards of $50,000 worth of stock." It is stated further that the "foundation" will from now on "attend to sending out all publicity, pamphlets, literature and the like" and that it is sufficiently financed to carry on the work vigorously for some time to come.

The publicity activities of the Koch Cancer Foundation have already begun to function. The press agent seems to be one V. E. Scott. Mimeographed material is being sent out from New York to the newspapers of the country, prepared in the form of news articles for "immediate release." The headlines are so worded as to catch the eye of any who may be interested in the subject of cancer and especially so as to disguise the advertising feature of these unpaid advertisements. Some of the claims that the newspapers are asked to print in the form of news regarding the Koch treatment are:

> "Dr. Koch's antitoxin has successfully cured more than 80 per cent of hitherto hopeless cases."
>
> "One injection is all that is needed in 90 per cent of the cases. We have found that the antitoxin cures every form of cancer and does so with remarkable speed."
>
> ". . . the Koch Cancer Foundation, whose physicians have successfully cured more than 80 per cent of hopeless cancer cases during the past two years with the antitoxin discovered by William F. Koch, Ph.D., M.D., of Detroit."

Here, then, is a piece of publicity material puffing a commercially exploited secret remedy which the newspapers of the country are expected to broadcast without charge. In this, a public that is ignorant of the facts is told that a "former Professor of the University of Michigan" (which Koch never was) has a remedy for cancer that will cure 80 per cent of hopeless cases with a single injection!

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SUTURE MATERIAL FOR CONJUNCTIVAL WOUNDS

To the Editor:—Is there anything new in the way of suture material for use in closing wounds of the conjunctiva, as in pterygium operations or in accidental wounds? What material do the best men use for this purpose? Have you ever noticed that a modern textbook says nothing about the very thing you want to know?

John J. McIntosh, M.D., Mount Carmel, Ill.

Answer.—Suture material is much like the Rock of Ages, unchanged by time. For closing conjunctival wounds, whether accidental or intentional, silk is still the suture material of choice; the color of the silk is a matter of individual preference. Solutions of continuity in the cornea or sclera still unite most favorably with silk sutures. However, under certain circumstances, such sutures may be under considerable tension that parallels the lines of cleavage of the tissues in question and, in order to prevent cutting through, it may be advisable to tie the sutures over the perforated gold plates first proposed by Wiener of St. Louis. For muscle operations, no. 0 catgut is frequently employed. In the last Torok and Grout Surgery of the Eye, one paragraph is devoted to suture material and its sterilization.

EPINEPHRINE IN CARDIAC ASTHMA

To the Editor:—I have a patient with cardiac asthma who is relieved by hypodermic injection of epinephrine. The injections leave ecchymoses or hematomas, however, and these red places remain sore for some time. Is there any treatment? Hobart P. Shattuck, M.D., Los Angeles.

Answer.—Epinephrine injections should be given intramuscularly, not hypodermically. When injections are given in concentrated form into the subcutaneous tissue, which is poorly supplied with blood, by reason of vasoconstrictor action, local nutritional disturbances and even necrosis occur. Great dilution would lessen this tendency. If the injections that produce the disturbances were given intramuscularly, dilutions of the solution would lessen the tendency to injury.

EYE-WASH FOR REMOVING CHEMICALS

To the Editor:—I would appreciate information concerning the proper emergency solution antidotal or neutralizing in action to be used in washing from the eye various chemicals, such as acids, alkalis and potassium cyanide. Please state strength of each solution.

Malcolm Raymond, M.D., Lansdowne, Pa.

Answer.—It is obviously impossible to give specific antidotes for the various irritant solutions that may attack and injure the eyeball. In general, it may be said that time and the quantity of the neutralizing solution used are more important than the character of the neutralizing solution. When the eye is attacked by a chemical irritant, the solution enters the tissues of the conjunctiva and cornea very rapidly, and unless the neutralizing agent is employed within the course of a very few seconds (less than one minute), the resultant injury is well under way. All that can then be accomplished is to wash away the excess, and for this purpose, at least one quart should be used. If the irritant is an acid, as occurs not infrequently in handling storage batteries, the best neutralizing solution is made by adding from two to four teaspoonfuls of ordinary baking soda to a quart of water. If the irritant is an alkali, the handiest neutralizing agents are milk or boric acid solution. But, as was stressed previously, it is not the character, but rather the quantity, of the neutralizing agent that is of major import.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

American Board of Otolaryngology, Canada: Montreal, June 1. Sec., Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

Arkansas: Little Rock, May 11-12. Sec., Dr. J. W. Walker, Fayetteville. Homeo. Board, Little Rock, May 11. Sec., Dr. A. A. Pringle, Eureka Springs. Eclectic Board, Little Rock, May 11. Sec., Dr. Claude E. Laws, Fort Smith.

Delaware: Wilmington, Regular Board and Homeo. Board, June 15-17. Pres., Dr. H. W. Briggs, Wilmington.

Florida: St. Petersburg, June 14-15. Sec., Dr. H. M. Rowlett, Box 603, Tampa.

Georgia: Atlanta, June 9-11; Augusta, June 1-3. Sec., Dr. C. T. Nolan, Marietta, Ga.

Iowa: Iowa City, June 8-10. Commissioner of Health, Dr. Don M. Griswold, State Capitol, Des Moines.

Kansas: Kansas City, June 15. Sec., Dr. Albert S. Ross, Sabetha.

Kentucky: Louisville, June 24-26. Sec., Dr. A. T. McCormack, 532 West Main Street, Louisville.

Maryland: Baltimore, Reg. Bd., June 15-18. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Bd., June 15-16. Sec., Dr Joseph S. Garrison, Old Orchard Rd., Ten Hills, Baltimore.

Michigan: Ann Arbor, June 8-10. Detroit, June 14-16. Sec., Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

Minnesota: Minneapolis, June 15. Sec., Dr. A. E. Comstock, 731 Lowry Bldg., St. Paul.

Missouri: St. Louis, June 28-July 1. Chief, Licensure, Dr. Ross Hopkins, Jefferson City.

National Board of Medical Examiners: Part I, June 21-23; Part II, June 22-23. All applications should be made on or before May 15. Sec., Dr. J. S. Rodman, 1600 Walnut Street, Philadelphia.

Nebraska: Omaha, June 8-10. Director, Bur. of Exam. Bds., Mrs. Clark Perkins, Lincoln.

New Jersey: Trenton, June 15-16. Sec., Dr. Alexander MacAlister, Room 1101, Trenton Trust Bldg., Trenton.

New York: Albany, Buffalo, New York and Syracuse, June 28-July 1. Chief, Mr. Herbert J. Hamilton, Education Bldg., Albany.

North Carolina: Raleigh, June 21-25. Sec., Dr. K. P. B. Bonner, Morehead City.

Ohio: Columbus, June 8-11. Sec., Dr. H. M. Platter, Columbus.

Oklahoma: Oklahoma City, June 15-16. Sec., Dr. J. M. Byrum, Shawnee.

Phillipine Islands: Manila, May 11. Sec., Dr. Jose V. Gloria, 1834-B-Azcarraza, Manila.

South Carolina: Columbia, June 22. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

Texas: Austin, June 15-17. Sec., Dr. T. J. Crowe, 918 Mercantile Bank Bldg., Dallas.

Vermont: Burlington, June 23. Sec., Dr. W. Scott Nay, Underhill.

Virginia: Richmond, June 16-19. Sec., Dr. J. M. Preston, 720 Shenandoah Life Bldg., Roanoke.

Wisconsin: Milwaukee, June 29-July 1. Sec., Dr. Robert E. Flynn, State Bank Bldg., La Crosse.

Pennsylvania January Examination

Mr. C. D. Koch, director of the Professional Education Bureau of Pennsylvania, reports the written and practical examination held in Philadelphia, Jan. 26-30, 1926. The examination covered 13 subjects and included 130 questions. An average of 75 per cent was required to pass. Of the 60 candidates examined, 56 passed and 4 failed. The following colleges were represented:

College	LICENSED BY EXAMINATION	Year Grad.	Number Failed
Pacific Medical College		(1913)	1
Yale University School of Medicine		(1924)	1
Georgetown University School of Medicine		(1924)	1
Howard University School of Medicine		(1924)	3
Chicago College of Medicine and Surgery		(1912)	1
Hering Medical College		(1911)	1
University of Kansas School of Medicine		(1923)	2
Kentucky School of Medicine, Louisville		(1893)	1
Tulane University of Louisiana School of Medicine		(1918)	1
Maryland Medical College		(1903)	1
Boston University School of Medicine		(1923)	1
Harvard University		(1913)	1

Southern Homeopathic Medical College	(1906)	1
University of Michigan Medical School	(1924)	1
Tufts College Medical School	(1915), (1924)	2
University of Nebraska College of Medicine	(1923)	1
Albany Medical College	(1894), (1903)	2
University of Buffalo Department of Medicine	(1911)	1
Columbia University College of Phys. and Surgs	(1924)	1
Jefferson Medical College of Philadelphia	(1895), (1911), (1920), (1924)	4
Temple University Department of Medicine	(1921)	1
University of Pennsylvania School of Med.	(1895), (1923, 5)	6
University of Pittsburgh School of Medicine	(1923), (1924)	2
Woman's Med. Coll. of Pennsylvania	(1922), (1923), (1924, 4)	6
Queen's University Faculty of Medicine	(1923)	1
University of Toronto Faculty of Medicine	(1923), (1924)	2
McGill University Faculty of Medicine	(1923), (1924)	2
Comenian University of Bratislava, Czechoslovakia	(1922)*	1
University of Szegedin, Hungary	(1906)*	1
University of Naples, Italy	(1916)*, (1921),* (1923, 2)*	4
University of Rome, Italy	(1910)	1
University of St. Vladimira, Kief, Russia	(1916)*	1

FAILED

College	Year Grad.	Number Passed
Leonard Medical College, Raleigh	(1911)	1
Temple University Department of Medicine	(1915)	1
University of Marburg, Germany	(1924)	1
University of Constantinople, Turkey	(1918)*	1

* Verification of graduation by the American Medical Association in process.

Medical Economics

STRENGTHENING THE HARRISON NARCOTIC ACT

A bill to strengthen the Harrison Narcotic Act of Dec. 17, 1914, as amended, and for other purposes, S. 4085, was introduced in Congress, April 24, at the instance of the Treasury Department. The purpose of this bill, says Assistant Secretary of the Treasury Andrews, is "to clear up certain points which have been raised in certain courts to the disadvantage of the government." These points are to be cleared up (1) by requiring collectors of internal revenue to refuse registration to physicians whom they believe narcotic addicts; (2) by requiring pharmacists to determine whether physicians' prescriptions were or were not issued in the course of professional practice, and to refuse to fill such as the pharmacist may reasonably suspect of not having been so issued; (3) by compelling physicians to keep records of every dose of any narcotic dispensed by them, except such as may be dispensed in emergency cases; (4) by forbidding everywhere the ambulatory treatment of narcotic addicts; (5) by requiring physicians to keep records of all purchases of so-called exempt narcotic preparations, and (6) by denying registration for a period of from one to two years to any physician convicted of any violation of the Harrison Narcotic Act.

Any collector of internal revenue, if this bill is enacted, must refuse to register under the Harrison Narcotic Act any narcotic addict. No preliminary notice and hearing are required. No grace is granted the unfortunate addict undergoing treatment in the hope of cure. Discretion is not allowed the collector. A narcotic addict cannot register, and the collector must act on such evidence as he has. The physician refused registration is left to redress in court, with all the publicity and loss of professional prestige which that procedure entails.

The laws of many states already provide that licenses to practice medicine may be revoked if the licentiate is a narcotic addict. The Treasury Department presumably has knowledge of addicts holding such licenses, or it would not have asked the right to refuse registration to such persons. Its field officers, however, instead of being charged with the duty of initiating action before state licensing boards looking toward the revocation of such licenses, are expressly instructed not to do so. That the disclosure of the information they possess is not unlawful is shown by the fact that they may disclose it on request of a state licensing board. But the Treasury Department keeps these boards in darkness. Why it thus refuses to avail itself of existing agencies effectually to bar narcotic addicts from practice, while it seeks authority to accomplish the same end to a limited extent through this legislation, is difficult to understand. The only guess that can be hazarded is that while the evidence of addiction in possession of the Treasury Department may satisfy some lay collector of internal revenue, vested with arbitrary power, as to the habits of would-be registrants, it would be of doubtful value if submitted to an impartial tribunal of physicians, when the registrant could introduce evidence on his own behalf.

The fact that Congress may not have authority to confer on the Treasury Department the power it here seeks does not seem to have occurred to those who drafted this bill. To determine who is and who is not fit to prescribe, administer and dispense narcotic drugs is to regulate the practice of medicine, whether that determination is based on supposed narcotic addiction or on any other grounds; and the regulation of the practice of medicine within a state is beyond the power of Congress. The United States Supreme Court states the case thus:

> The declared object of the Narcotic Law is to provide revenue, and this court has held that whatever additional moral end it may have in view must "be reached only through a revenue measure and within the limits of a revenue measure." Congress cannot, under the pretext of executing delegated power, pass laws for the accomplishment of objects not entrusted to the federal government. . . . Obviously, direct con*trol of medical practice in the states is beyond the power of the federal* government. Incidental regulation of such practice by Congress through a taxing act cannot extend to matters plainly inappropriate and unnecessary to reasonable enforcement of a revenue measure.—*Linder* v. *United States,* 268 U. S. 5, decided, April 13, 1925.

Every prescription issued by a physician for a narcotic drug will be subject to review by any pharmacist who may be called on to fill it, if the pending bill is passed. If there are present "circumstances from which the dealer might reasonably deduce that the prescription was not issued by the physician, dentist or veterinary surgeon in the course of his professional practice only," the pharmacist cannot lawfully fill it. It is not necessary that the pharmacist actually deduce that the prescription was not issued in the course of professional practice; it is sufficient that he might reasonably do so. What constitutes "the course of professional practice only," the bill does not state. It presumes apparently that any pharmacist can determine in his pharmacy what took place in the sickroom or in the physician's office, and that he is sufficiently acquainted with the normal course of professional practice to be entrusted safely with statutory authority to refuse to any sick person medicine that the attending physician has prescribed.

The pending bill provides that every physician shall keep a record of all narcotic drugs he dispenses or distributes, no manner how small the amount may be, except in emergency cases. The law now does not require the physician to keep a record of the narcotic drugs he dispenses or distributes in the course of his professional practice to patients on whom he is in personal attendance, except the so-called exempt narcotic preparations. The Treasury Department, it is true, undertook at one time by regulation to require physicians to keep records of narcotic drugs dispensed to office patients. The United States Circuit Court of Appeals, Eighth Circuit, however, April 14, 1922, denied the right of the department to impose any such requirement (*Hurwitz* v. *United States,* 280 Fed. Rep. 109).

A physician cannot, if the pending bill is enacted, dispense or distribute narcotic drugs pursuant to the so-called ambulatory treatment of narcotic drug addiction. Here again, apparently, the proponents of this bill have overlooked the right of each state to regulate the practice of medicine within its own borders. If the federal government can through its taxing power determine who may and who may not prescribe narcotic drugs, by eliminating narcotic addicts or otherwise, it may in like manner determine who may and who may not prescribe drugs of any other kind. If, under its taxing power, the federal government can determine how narcotic addiction shall not be treated in the states, it may in like manner determine how every other disease may and may not be treated. If, then, the federal government can tell the people of the states who shall and who shall not treat them, and how they may and how they may not be treated, our state medical practice acts may soon be superseded by federal statutes.

Physicians who dispense the so-called exempt narcotic preparations must, if this bill is enacted, keep records of all purchases of such preparations, in addition to the records of sales, exchanges and gifts, which they are now required to keep. The additional burden of keeping a record of purchases may not be great. It may well be asked, however, what good is to be accomplished by such a record so long as the law allows any one to buy the exempt preparations without physicians' prescriptions and without identification.

Probably the most objectionable feature in the pending bill is the provision that any physician convicted of having violated any of its terms or any provisions of the Harrison Narcotic Act as it now stands will be absolutely denied registration for a period of one year from the first day of July next following the date of such conviction. This is in addition to the penalties now authorized by law, a fine not exceeding $2,000, imprisonment not exceeding five years, or both, in the discretion of the court. Fine and imprisonment are discretionary. The refusal of registration is not. If a physician overlooks the renewal of his registration on or before July 1, and without reregistration prescribes a narcotic on the following day, he has violated the Harrison Narcotic Act. If some narcotic field officer prosecutes the physician for this lapse, the physician may be convicted. The court may impose a minimum fine, or even suspend sentence. But under the proposed law, registration could not be granted to that physician for from one to two years after conviction. This proposed deprivation of the right to prescribe narcotics for from one to two years has greater significance than appears on the surface. It would vest in the Treasury Department almost unlimited power to force compromises of cases by physicians supposed by the department to have violated the law, no matter how flimsy the evidence of such violation might be. Physicians threatened with prosecutions and informed as to the uncertainties of court procedure, rather than face the possibilities of convictions and the certainty, in event of conviction, of deprivation of the right to use narcotic drugs in their practices for a year or two, would readily pay large amounts to the Treasury Department by way of compromise, as is authorized by law. By so doing they would avoid the possibility of conviction and the loss of the right to use narcotics. And the Treasury Department would thus avoid the necessity of having to prove its cases in court to the satisfaction of impartial juries.

The denial of the right to register under the federal law, proposed in this bill, apparently ignores the opinion of the United States Circuit Court of the Northern District of Georgia:

> But to prohibit a practicing physician from prescribing narcotics unless he registers, and then refuse to register him, would, to that extent, be to prohibit and regulate his practice of medicine, a thing within the province of the state, and not of the United States, and in contradiction of the revenue purposes of the act.—*Starnes* v. *Rose*, 282 Fed. Rep. 336, decided, July 21, 1922.

On the whole, this legislation seems to have been conceived in disregard of the fact that the "certain points which have been raised in certain courts to the disadvantage of the government" have been based on the constitution, which an act of Congress cannot alter. It seems to disregard the fact that the keeping of records by physicians will not automatically enforce the Harrison Narcotic Act, but that it can be enforced only through the energy and intelligence of the officers and employees of the Treasury Department assigned to that duty. It seems to disregard the fact that registrants who would unlawfully dispense or administer narcotic drugs would without compunction falsify their records. The medical profession yields to no class in its willingness to submit to burdens calculated to diminish narcotic drug addiction. Evidence is not available, however, to show that the burdens proposed by this bill would do so. Until such evidence is forthcoming, the medical profession may be expected to oppose the enactment of this bill.

State medical associations, county medical societies, and physicians may well communicate their views with respect to this bill to the President, the Secretary of the Treasury, the Committee on Finance of the Senate, and the Committee on Ways and Means of the House of Representatives, and to their respective senators and representatives.

Book Notices

ULTRA-VIOLET RAYS IN THE TREATMENT AND CURE OF DISEASE. By Percy Hall, M.R.C.S., L.R.C.P. With introductions by Sir Henry Gauvain, M.A., M.D., M.C., Medical Superintendent, Lord Mayor Treloar Cripples' Hospitals, and Leonard E. Hill, M.B., F.R.S., Director, Department of Applied Physiology and Hygiene, National Institute of Medical Research, London. *Cloth. Price, $3.75. Pp. 110, with illustrations.* St. Louis: C. V. Mosby Company, 1924.

Among the numerous publications springing from the present interest in actinotherapy, some are justified by their broad and comprehensive presentation of the subject as a whole, others by the indisputable experimental or clinical evidence of some important phase in this field of therapy. Hall's work is an incomplete and rather unconvincing presentation of some of the clinical aspects of ultraviolet therapy. After not less than four prefaces, chapters dealing with sunlight, heliotherapy, artificial light and ultraviolet radiation furnish a fairly comprehensive but much too brief presentation of the physics and physiologic action of ultraviolet energy. The chapter on artificial light especially lacks critical presentation of the subject, and its illustrations include at least one obsolete type of lamp, the "leucodescent" one. The chapters on the sources of ultraviolet rays are laudable for calling attention to the tungsten arc lamp, for this type of ultraviolet radiation has a distinctly high place in therapy alongside that of the mercury arc lamp. Chapters on ultraviolet rays in rheumatic disorders, in neurasthenia and in pulmonary tuberculosis illustrate without justification their treatment by the Bergoniè chair and by diathermy through the "condenser couch." Ultraviolet rays are praised for their efficiency "in obscure autointoxication when other methods of treatment have utterly failed." Various types of lamps used in America are labeled with their trade names instead of the generally adopted scientific names based on their construction. The case histories presented are too casual, and no clear-cut attempt to evaluate ultraviolet rays by using them alone has been made. Statements as to dosage are vague. The author refers to the erythema and then again to the patient's own sensations as a guide in treatment.

THORACIC SURGERY. The Surgical Treatment of Thoracic Disease. By Howard Lilienthal, M.D., F.A.C.S., Consulting Surgeon to Mount Sinai and to Bellevue Hospitals. Two volumes. Cloth. Price, $20. Pp. 1294, with 904 illustrations. Philadelphia: W. B. Saunders Company, 1925.

This is the most comprehensive treatise on thoracic surgery that has appeared in English. The work is essentially a record of the personal experience and present views of a leader in this field. His purpose is to give to the general medical profession a guide to the diagnosis of surgical thoracic diseases and the possibilities of their operative treatment. Chapters dealing with related specialties are included to give necessary collateral information. These include physiology, by Evarts A. Graham; roentgenology, by Leopold Jaches; general anesthesia, by William Branower; blood transfusion, by Reuben Ottenberg; the intravascular treatment of thoracic aneurysm with gold wire and galvanism, by William Chittenden Lusk, and the treatment of pulmonary tuberculosis by means of induced pneumothorax by J. Burns Amberson, Jr., and Andrew Peters. With the exception of these chapters, the material is the personal contribution of the author and is based on his great wealth of clinical material. After a chapter on general considerations is one on the physiology of the chest, by Graham. This is detailed and extensive, supplying the necessary foundation for a proper understanding of the problems of thoracic surgery. It is followed by a chapter on roentgenology by Jaches, which practically constitutes an atlas, presenting not only a valuable collection of roentgenograms of surgical diseases of the chest but also normal conditions from infancy to old age, and postural photographs and corresponding roentgenograms. Considerable space is devoted to pulmonary tuberculosis and particularly its treatment by induced pneumothorax. Surgery of tuberculosis is of constantly increasing importance, and it is essential that the surgeon should be thoroughly familiar with the indications, contraindications and technic of artificial pneumothorax, as this treatment often should precede any resort to surgery. The methods of treatment, whether by operation or otherwise, which the author has found most effective are given precedence, although as a rule other methods are offered and discussed. The work as a whole is excellently presented and enhanced by numerous photographs, drawings and roentgenograms. Some of these are in series, taken at varying intervals. The chapter on the esophagus is disappointing in that the pioneer and fundamental work on antethoracic esophagoplasty by such men as Lexer, Hirsh, Rehn and Ropke, Jianu, Fink, Enderlen and Hotz is merely mentioned, without being presented adequately. A number of the illustrations are so poorly reproduced as to be of little value, especially those in the chapter on the surgical treatment of angina pectoris. The illustrations from Jonnesco give no idea of the clarity and detail of the originals. On the whole, the volumes present a wealth of clinical information presented clearly and so as to be of great practical value to the general surgeon as well as to those limiting their work to this field.

Fresh Air and Ventilation. By C.-E. A. Winslow, Professor of Public Health, Yale School of Medicine. Cloth. Price, $2. Pp. 182. New York: E. P. Dutton & Co., 1926.

Popular conceptions in regard to the relation between air and health are to a large extent erroneous. As Winslow points out, the great mass of scientific material on this subject is buried in lengthy treatises or in publications that do not come within the scope of popular reading. For a number of years sanitarians have taught that the overheating of rooms is more important than any other one factor; but in practical ventilation this has been to a large extent ignored, and emphasis has been laid mainly on an adequate fresh air supply. The author of this little book has done a service in giving the layman an opportunity to understand the truth about ventilation, told in a logical, clear and concise manner, which should serve as a model for popular presentations of scientific studies.

ÉTUDE ANALYTIQUE ET SYNTHÉTIQUE DE LA SYMPATHECTOMIE PÉRIARTÉRIELLE APPLIQUÉE AU TRAITEMENT DES ULCÈRES CHRONIQUES DES MEMBRES INFÉRIEURS. Physiopathologie et résultats immédiats et éloignés de la denudation artérielle. Par le Docteur Guillermo Garcia-Diaz, de la Faculté de médecine de Paris et de Buenos-Aires. Paper. Pp. 281, with illustrations. Paris, Le François, 1925.

The author has made a study of 346 cases of chronic leg ulcers treated by periarterial sympathectomy. A part of this group is composed of hitherto unpublished cases. The first chapters deal with the history of the operation and with the morphology and physiology of vascular innervation. The technic of the instrumental arterial denudation is carefully presented. A number of excellent tables compiled from cases in the literature show the immediate and the late clinical results of periarterial sympathectomy in cases of ulcers of the leg, the toes, the instep, the foot, and amputation stumps. He discusses the accidents of this operation and the likelihood of their occurrence. These include operative wounds of the vessels, secondary rupture of an artery, arteritis with thrombosis, and local aggravation of the trophic lesions. The means of prevention of these sequelae generally are: (*a*) selection of a large accessible trunk; (*b*) use of sharp instruments, and (*c*) operative precautions in the handling of the adventitia. The physiopathology is fully discussed. The results of the operation gave 1.4 per cent mortality; 3 per cent aggravation of the condition; 42 per cent absence of improvement, and in 53 per cent a healing effect. The writer concludes from his study that periarterial sympathectomy is practically without value from the point of permanent results, and is able to accelerate cicatrization in only 30 per cent of the cases. He does not believe that the results of the operation of periarterial sympathectomy are brought about by an interruption of the sympathetic system and a resultant vasodilatation, but by a vasomotor reflex related to the sensory and not the sympathetic fibers. The term sympathectomy therefore should be replaced by the term "neurectomy." Periarterial neurectomy produces a local anular contraction and a peripheral vasodilatation in the affected limb and certain healing effects in half the cases. The operation cannot be considered curative for chronic ulcers of the lower leg. Since arterial denudation is related to healing by a reflex action at which the point of origin is an excitation by section of sensory nerves, it seems rational to search for an operation directed toward the sensory nerves of the extremity in order to produce these phenomena without serious operative risks. The author believes that in the light of recent researches the vasodilatory and healing effects perhaps will be obtained without surgical intervention but by the use of certain forms of electric therapy and light therapy. This well written book is a valuable and rational analysis of this subject, and is a clear landmark in the midst of the variable current literature on this matter.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

Chemistry and Recent Progress in Medicine. By Julius Stieglitz, Chairman of the Department of Chemistry, University of Chicago. The Charles E. Dohme Memorial Lectureship of the Johns Hojkins University, School of Medicine. Second course, 1924. Cloth. Price, $1.50. Pp. 62. Baltimore: Williams & Wilkins Company, 1926. .

Lecture analyzing new products developed by chemists for medical use and chemical contribution to understanding of physiologic and pathologic processes.

Food, Nutrition and Health. By E. V. McCollum, Ph.D., Sc.D., Professor of Chemical Hygiene, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, and Nina Simmonds, Sc.D. (Hygiene), Associate Professor of Chemical Hygiene, School of Hygiene and Public Health, Johns Hopkins University, Baltimore. Cloth. Price, $1.50. Pp. 143. Baltimore, 1925.

Thoroughly practical brief book for layman or physician, simply and well written.

Nephritis. Standardization of Clinical Work in Hospitals and Regional Offices. Compiled by Philip B. Matz, M.D., Chief, Medical Research Subdivision. With the cooperation of the Group on Investigation and Research of the Medical Council of the U. S. Veterans' Bureau. United States Veterans' Bureau Medical Service, Clinical Bulletin No. 12. Washington, 1926.

Official publication to standardize diagnosis and treatment of nephritis, based on Christian's classification.

Handbuch der normalen und pathologischen Physiologie. Mit Berücksichtigung der experimentellen Pharmakologie. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden und A. Ellinger. Elfter Band. Receptionsorgane I. (E/III. Tangoreceptoren. Thermoreceptoren. Chemoreceptoren. Phonoreceptoren. Statoreceptoren). Paper. Price, 81 marks. Pp. 1062, with 236 illustrations. Berlin: Julius Springer, 1926.

Part of extensive German system of physiology.

Handbuch der Hals-Nasen-Ohren-Heilkunde. Mit Einschluss der Grenzgebiete. Herausgegeben von A. Denker und O. Kahler. Zweiter Band. Zweiter Teil. Die Krankheiten der Luftwege und der Mundhöhle. Paper. Price, 84 marks. Pp. 1068, with 394 illustrations. Berlin: Julius Springer, 1926.

Second volume of new German system of diseases of the nose and throat, handsomely printed and illustrated.

The Treasury of Human Inheritance. By Karl Pearson, F.R.S. Volume II. Anomalies and Diseases of the Eye. Part II. Colour-Blindness. By Julia Bell, M.A., M.R.C.S., L.R.C.P. Nettleship Memorial Volume. Eugenics Laboratory Memoirs, XXIII. Paper. Price, 45 shillings net. Pp. 267, with illustrations. London: Cambridge University Press, 1926.

Monograph on heredity of color blindness.

Animal Heroes of the Great War. By Ernest Harold Baynes. With an account of the writer, "The Man and His Enemies." By Owen Wister. Cloth. Price, $3.50. Pp. 307, with illustrations. New York: The Macmillan Company, 1925.

Well written story by a lover of animals who also did much for scientific animal experimentation.

Nouveau traité de médecine. Publié sous la direction de MM. les professeurs G.-H. Roger, F. Widal, P. J. Teissier. Fascicule XIX; Pathologie du cerveau et du cervelet. Cloth. Pp. 1016, with illustrations. Paris: Masson & Cie, 1925.

Part of a French system of medicine dealing with technical aspects of neurologic pathology.

Gastric Function in Health and Disease. By John A Ryle, M D, F R C P, Assistant Physician and Lecturer on Medical Pathology, Guy's Hospital Cloth. Price, $2 75. Pp 152, with illustrations New York: Oxford University Press, 1926

A reprint of the Goulstonian lectures published in the *Lancet* in 1925.

Sixty Years in Medical Harness or the Story of a Long Medical Life, 1865 1925 By Charles Beneulyn Johnson, M D Cloth Price, $3 Pp 333, with illustrations New York: Medical Life Press, 1926

Reminiscences of a midwestern physician educated at Ann Arbor.

Von den akut infektiosen Respirationsstenosen der Kinder insbesondere dem diphtherischen Krupp und ihrer Behandlung Von Dr Dionys Pospischill, Primararzt Heft 8 Abhandlungen aus der Kinderheilkunde und ihren Grenzgebieten Herausgegeben von A Czerny. Paper Price, 2 40 marks Pp 42. Berlin. S Karger, 1926

Methods of a Viennese hospital in treatment of diphtheritic stenosis .

Ueber die Agraphie und ihre lokaldiagnostischen Beziehungen. Von Dr. Georg Herrmann, und Prof Dr Otto Potzl Heft 35 Abhandlungen aus der Neurologie, Psychiatrie, Psychologie und ihren Grenzgebieten Herausgegeben von K Bonhoeffer Paper Price, 24 marks Pp 380, with 29 illustrations Berlin S Karger, 1926.

Monograph of interest to neurologists.

Sampling and Examination of Mine Gases and Natural Gas. By George A Burrell and Frank M Seibert Revised by G W. Jones U S Department of Commerce, Bureau of Mines Bulletin 197. A revision of Bulletin 42 Paper Price, 25 cents Pp. 108. Washington: Government Printing Office, 1926

Technical bulletin of interest to laboratory investigators.

Burke and Hare. Edited by William Roughead Cloth Price, 10 shillings, 6 pence net Pp 280, with illustrations Edinburgh William Hodge & Co, Ltd, 1921.

The report of the trial of the two most renowned body-snatchers of all time.

Yatren 105 in der Behandlung der Amoebenruhr Von Prof Dr. R Ruge, Marine Generalstabsarzt A D Heft 4, Behringwerk Mitteilungen Begrundet von E v Behring Paper Pp 46, with 38 illustrations Marburg Lahn: Behringwerke, 1925.

Technical monograph on treatment of amebiasis.

Untersuchungen über den Stoffwechsel des Kindes im Fieber. Von Professor Dr. W Birk Heft 9 Abhandlungen aus der Kinderheilkunde und ihren Grenzgebieten Herausgegeben von A Czerny. Paper. Price, 7 marks Pp 104, with 19 illustrations Berlin: S Karger, 1926

Studies of metabolism of feverish children.

Disease Prevention By Herbert H Waite, M D, Professor of Bacteriology and Pathology, University of Nebraska. Cloth Price, $4.50 net. Pp 667 New York Thomas Y Crowell Company, 1926

A mass of information, technical in language and presentation, suitable as a reference work.

Comparative Physiology By Lancelot T. Hogben, M A, D.Sc, Assistant Professor in Zoology, McGill University Cloth Price, $3 Pp 219, with 44 illustrations New York. Macmillan Company, 1926

Lectures given to medical students who have completed elementary physiology.

Die Geschlechtskrankheiten Leitfaden für Studierende und Aerzte. Von H Lohe, A o. Prof a d Univ Berlin Paper Price, 8 40 marks. Pp 213, with 75 illustrations Berlin S. Karger, 1926

Well printed and illustrated handbook on treatment of venereal diseases.

A Superficie de Contraste na Semiotica Cardio Vascular. Por Aguinaldo Lins. Prefacio do Dr. Manoel de Abreu Do Instituto de Sciencias. Paper. Pp 80, with 45 illustrations Pernambucana, 1925.

Monograph from Pernambuca on studies of findings in the mediastinal region.

Visual Field Studies By Ralph I Lloyd, M D, F.A C.S, Surgeon, N. Y Ophthalmic Hospital Cloth. Price, $6 net. Pp. 216, with 124 illustrations New York. Technical Press, 1926

Material from author's lectures to graduate students in ophthalmology.

Fifteenth Annual Report of the Trustees of the State Institute for the Study of Malignant Disease, for the Year 1925. State of New York, Legislative Document, No. 51 Albany, 1926.

Report of the Public Health and Hospitals Department for the Years 1923 and 1924, Western Australia. Perth, 1925.

Medicolegal

Revocation of License on Account of Advertisement

(Doran v. State Board of Medical Examiners (Colo.), 240 Pac. R. 335)

The Supreme Court of Colorado, in affirming a judgment dismissing a writ of certiorari to review an order of the state board of medical examiners revoking the plaintiff's license to practice medicine in Colorado, says that it was charged that he had caused an advertisement to be published in a newspaper in that state, which advertisement contained a statement that he had professionally treated and cured a certain woman of ulcers of the stomach, whereas the statement was false and known by him to be so. The woman referred to testified that she had never been a patient of his, and that she had never authorized or permitted him to make use of her name or to reveal her alleged physical condition, as was done in that advertisement. He testified that he resided in Minneapolis and that his practice consisted principally in traveling about from town to town in several Western states, including the eastern part of Colorado, and that he advertised in advance the date on which he would be in each town to receive patients at the hotel where he stayed; that he did cause the advertisement in question to be published, but that such part of the advertisement about the woman got there without his knowledge—must have been inserted through some mistake of some one in his office. He admitted that she had never given him permission to use her name in any advertisement, and that he had not treated her for ulcers, but he maintained that he had given her treatment of some kind. There was no evidence in the record that the physician did not know the contents of the published statement when he gave it to the publisher, or that he made inquiry of any employee in his office in Minneapolis how or why the falsehood was inserted, and there was no evidence by any such employee that he had prepared the notice without suggestion or information from the physician. The board, in the absence of any enlightenment from the physician, could not well assume that an employee acted without instructions.

The court has set forth the substance of the testimony, not that the courts may or can pass on its sufficiency to sustain the findings of the medical board, but to illustrate the character of this physician and the kind of practice in which he was engaged. That such advertisement was false and misleading and was intended and calculated to secure patients and fees for the physician among the unwary and inexperienced persons suffering from disease is too apparent to need discussion; and that it was made for the purpose of procuring patients and fees for himself is a fair inference. If such conduct is not immoral, dishonorable and unprofessional, this court does not know what conduct of a licensed physician would come within the meaning of those words. An elaborate argument of counsel for the physician as to the meaning of these expressions was made to convince the court that they did not include the false and misleading statements in this advertisement. The board of medical examiners consists of reputable physicians appointed by the governor. They are supposed to know better than laymen the ethics of their profession and what constitutes reprehensible conduct that unfits one to engage or continue in the practice of medicine, but an average layman, the court apprehends, would not experience much difficulty in arriving at the conclusion that a physician who, without authority of his patient, reveals to the public through a newspaper the nature of the patient's disease, or falsely states that he has cured him of an ailment, in order to increase his practice and professional fees, is not a proper person to practice the healing art. If the question was one for the courts, it is probable that they would not disagree with the findings or conclusion, either of laymen or of members of the medical profession.

On this board of medical examiners was conferred the power to pass on such charges. There does not appear to have been any abuse of discretion on its part. The courts are not called on in such a case to pass on the weight or sufficiency of the testimony on which the findings of the board are based. There certainly was testimony to sustain its findings. Since the medical board had jurisdiction both as to the subject-matter of its inquiry and of the person of the physician, and, having, as the record showed, regularly pursued its authority, the district court was right in dismissing the writ of certiorari. This and other courts have repeatedly held that the object of certiorari is not to settle or determine disputed facts but to investigate and correct errors of law of jurisdictional nature, and, under the code of procedure, abuse of discretion. Rehearing denied.

May Be Prosecuted Under Medical Practice Act

(People v. Mills (Calif.), 240 Pac. R 296)

The District Court of Appeal of California, third district, in affirming a judgment of conviction of the defendant of violating the medical practice act of that state, says that the testimony tended to show that he was practicing a system of curing and healing the sick according to the method and procedure or system known as chiropractic and followed by chiropractors. It was contended that, not having a license from the chiropractic board, he should have been prosecuted under section 15 of the chiropractic act, and that, as prosecution under that section could only be in the justice's court, the superior court, in which he was convicted, had no jurisdiction of the case. But by section 18 of the chiropractic act no part of the medical practice act is repealed, save as to those portions which are in conflict with the chiropractic act, when applied to persons holding a license issued by the chiropractic board.

Again, it was contended that, as the defendant had no license from the chiropractic board, he might have been prosecuted in separate courts for the same act, one prosecution under the terms of section 15 of the chiropractic act and another prosecution under the terms and conditions of section 17 of the medical practice act, as amended. It was also contended that one holding a certificate to practice medicine under the medical practice act would be subject to prosecution for an attempt to follow the system of curing used by chiropractors without having a license from the chiropractic board, which would result in the following situation. A medical practitioner holding a medical license would be subject only to a maximum penalty under section 15 of the chiropractic act of a fine of $200, or by imprisonment in the county jail for not to exceed ninety days; whereas, the defendant, having no medical certificate and attempting to cure by the same system without having a certificate from the board of chiropractors, might be punished under section 17, as amended in 1917, and section 24 of the medical practice act, as added in 1917, by a fine not exceeding $600, or by a term of imprisonment in the county jail not to exceed 180 days, etc, and that therefore the sections are discriminatory. The court does not need to determine the correctness of this contention, because, if such is the effect of the chiropractic act, it would only result in the holding that section 15 of that act is invalid, in that it is made applicable to one class of persons and not to another.

Under the two acts, a complete defense to a charge of curing without a license is the introduction and showing by the defendant that he holds a license from either board. In other words, section 17 of the medical practice act is allowed to remain in full force and effect by the initiative measure known as the chiropractic act; to apply with full force and effect as fully and completely as it did prior to 1922 by the express terms of section 18 of the chiropractic act, to all unlicensed persons. Nor does the court think that there was any merit in the contention that the defendant was subject to different degrees of punishments in different courts, by reason of the difference in the terms of the two acts referred to. The court does not see any good reasoning in the contention that the defendant had been improperly convicted under an act which applied to him—one not holding any license—simply because he might also have been prosecuted in another court, or, in the justice's court, for the same act and a lesser penalty imposed.

Hearing denied by the Supreme Court of California.

Society Proceedings

COMING MEETINGS

American Association of Genito Urinary Surgeons, Hot Springs, Va, May 10 12 Dr. H G Bugbee, 40 E 41st Street, New York, Secretary.

American Association of Industrial Physicians and Surgeons, Philadelphia, May 24 26 Dr. F. L Rector, 22 East Ontario Street, Chicago, Secretary

American Bronchoscopic Society, Montreal, Canada, May 29. Dr. Henry B Orton, 671 Broad Street, Newark, N J, Secretary

American Child Health Association, Atlantic City, May 17-22. Dr. S J Crumbine, 370 7th Ave, New York City, Secretary.

American Dermatological Association, Philadelphia, May 27 29. Dr C. Guy Lane, 416 Marlborough Street, Boston, Secretary.

American Gynecological Society, Stockbridge, Mass, May 20 22. Dr. A H Curtis, 104 S Michigan Ave, Chicago, Secretary.

American Laryngological Association, Montreal, Canada, June 3 5. Dr. George M Coates, 1811 Spruce Street, Philadelphia, Secretary.

American Laryngological, Rhinological, and Otological Society, Montreal, Canada, May 31 June 2. Dr. Robert L Loughran, 145 West 58th Street, New York, Secretary.

American Neurological Association, Atlantic City, June 1 3. Dr. Henry A Riley, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Hot Springs, Va, June 14-16. Dr Emory Hill, Professional Building, Richmond, Va, Secretary.

American Orthopsychiatric Association, New York City, June 5 6 Dr. Karl A Menninger, Mulvane Building, Topeka, Kansas, Secretary.

American Otological Society, Montreal, Canada, May 31 June 3. Dr. Harold Walker, 390 Commonwealth Avenue, Boston, Secretary.

American Pediatric Society, Niagara Falls, Canada, May 31 June 2. Dr Howard Childs Carpenter, 1805 Spruce Street, Philadelphia, Secretary

American Psychiatric Association, New York City, June 8-11. Dr. Earl D Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, New York City, June 11. Dr. Sanger Brown II, 173 East 70th Street, New York City, Secretary.

American Roentgen Ray Society, Detroit, May 18 22. Dr. C. L. Martin, Baylor Hospital, Dallas, Texas, Secretary

American Surgical Association, Detroit, May 24-26 Dr. R B Greenough, 8 Marlborough Street, Boston, Secretary

American Therapeutic Society, Philadelphia, June 10 12 Dr. W. J. Mallory, 1720 Connecticut Ave, N. W, Washington, D. C, Secretary.

American Urological Association, Boston, May 17 19. Dr H. G. Hamer, 723 Hume Mansur Building, Indianapolis, Ind, Secretary.

Arkansas Medical Society, Hot Springs, May 18 20 Dr. W. R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Conference of State and Provincial Health Authorities, Atlantic City, N J, May 21 22 Dr Richard M Olin, State Commissioner of Health, Lansing, Mich, Secretary.

Connecticut State Medical Society, New Haven, May 19 20. Dr. C. W. Comfort, Jr, 27 Elm Street, New Haven, Secretary.

Georgia, Medical Association of, Albany, May 12-15. Dr. A. H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.

Illinois State Medical Society, Champaign, May 18-20. Dr. H. M. Camp, Lahl Building, Monmouth, Secretary

Iowa State Medical Society, Des Moines, May 12-14. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

·Maine Medical Association, Poland Springs, June 10-12. Dr. B L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Springfield, June 8 9. Dr. W. L Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, Ann Arbor, Mich, June 8 9. Miss Harriet Wilson, 535 North Dearborn Street, Chicago, Secretary.

Minnesota State Medical Association, St Paul, May 17 19. Dr. E A. Meyerding, 11 W Summit Avenue, St. Paul, Secretary.

Mississippi State Medical Association, Jackson, May 11-13. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.

Missouri State Medical Association, St. Louis, May 17 20. Dr. E. J. Goodwin, 901 Missouri Building, St Louis, Secretary

National Association for the Study of Epilepsy, New York City, June 7 8. Dr. A L Shaw, 108B The Albiston, Utica, N Y., Secretary.

Nebraska State Medical Association, Omaha, May 11 13. Dr. R. B. Adams, McKinley Building, Lincoln, Secretary

New Hampshire Medical Society, Concord, May 25 26. Dr. D. E Sullivan, 7 North State Street, Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 17-19. Dr. J. B. Morrison, 97 Halsey Street, Newark, Secretary.

New Mexico Medical Society, Albuquerque, May 19 21. Dr. C. M. Yater, 310 N Richardson Avenue, Roswell, Secretary.

North Carolina, Medical Society of the State of, Wrightsville Beach, June 15 17 Dr L B McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Minot, May 25 26. Dr. A. J. McCannel, Minot, Secretary.

Ohio State Medical Association, Toledo, May 11-13 Mr. Don K. Martin, 131 E State Street, Columbus, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, June 22 24. Dr. C A Thompson, 609 Barnes Building, Muskogee, Secretary.

Rhode Island Medical Society, Providence, June 3 Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

South Dakota State Medical Association, Aberdeen, May 19 20. Dr. John F. D Cook, Langford, Secretary.

Tennessee State Medical Association, Memphis, May 11-13. Dr. J. F. Gallagher, Jackson Building, Nashville, Secretary.

Texas, State Medical Association of, Houston, May 24 27. Dr. Holman Taylor, 207½ West 11th Street, Fort Worth, Secretary.

Mr S O. Neale, 211 Smallridge Building, Charleston, Execut
Secretary.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Twentieth Annual Meeting, held at New York, March 30-April 1, 1926

(Continued from page 1381)

Appendicitis in Early Life

DR. EDWARD W. PETERSON, New York: In a group of sixty-two cases five occurred up to 1 year; five from 1 to 2 years, eight from 2 to 3 years; nine from 3 to 4 years; fourteen between 4 and 5 years; and twenty-one between 5 and 6 years. More than 75 per cent were acute. About 60 per cent of the patients had perforation or abscess. There were no deaths up to the third year in eighteen cases; two deaths between 3 and 4 years; two between 4 and 5 years, and two between 5 and 6 years, respectively. Appendicitis under 5 is not at all uncommon. Under 2 years of age, it is apt to be overlooked in all but the worst cases. In certain cases the onset is insidious and the clinical picture obscure, but the majority have a clear-cut clinical picture. Speaking generally, the diagnosis of appendicitis in childhood is easier than in adult life, as there are fewer things to be looked for. The tendency to early perforation and the disastrous symptoms that follow are due to the habit of administering purgatives without waiting to establish a diagnosis. The majority of cases, undiagnosed, go on to recovery. In an acute abdominal attack in a child, with vomiting and fever, appendicitis should always be thought of, and this suspicion confirmed or ruled out. The lamentably high mortality from appendicitis in children is due to methods of procrastination and giving purgatives. The mortality in these cases is 9.67 per cent. The frequency with which appendicitis has developed during tonsillitis and influenza or acute infections makes me always ready to blame the appendix and to consider the possibility of a hematogenous origin. The presence of concretions means faulty drainage, and is associated with more or less inflammation of the organ. Foreign bodies have been found, and also intestinal parasites in these appendixes. There seems to be a direct causative relationship between appendicular irritation and intussusception; the relationship between hernia and appendicitis should also be considered. A failure to examine young patients with acute abdominal pain, vomiting and fever is also responsible for the relatively large number of late cases seen by the surgeon. In some cases, examination under light narcosis is necessary to establish a diagnosis. The examination should include a rectal examination, because the appendix is often low down in the pelvis. In young patients the "point tenderness", nausea and vomiting, with rise of temperature shortly after the onset of the pain, is sufficient indication for a diagnosis. The white and differential count is not as reliable as in adult cases. The differential diagnosis may lie between appendicitis and pneumonia, or gastro-enteritis, or intussusception, pyelitis or pyosalpinx, or inflammation in an undescended testis. Appendicitis may complicate pneumonia, influenza, tonsillitis, typhoid and various infections. One should never be satisfied with a diagnosis of measles or tonsillitis in the presence of pronounced abdominal symptoms.

DISCUSSION

DR. FENWICK BEEKMAN, New York: We have found at Bellevue that acute appendicitis in children under 5 years of age is rather rare. Our youngest child was 20 months old. If a series of all ages in life is taken, it will be found that about only 2 per cent of cases occur under 5 years. In a series of children up to 12 years of age, the percentage in the first half decade of life will be from 10 to 15. In our series we had a death rate of from 33 to 35 per cent in the first half decade of life, compared with a mortality of 6 per cent in the second half decade. Localization of peritoneal inflammation is much less common in children under 5 years of age than it is in older children, as shown by the relatively higher proportion of cases with spreading peritonitis at this age. We find that under 1 year of age the most common intra-abdominal condition in children is some form of obstruction: intussusception or strangulated inguinal hernia. I differ also with Dr. Peterson in that he says making a diagnosis of an abdominal inflammation in a child of 5 or under is easier than in an adult. Vomiting is a common symptom in all gastro-intestinal conditions, and in the vast majority of cases it is not due to inflammation of the peritoneum but to gastro-enteritis, and it is therefore very easy for the parents or the family physician to give the usual remedy, castor oil, and I am perfectly willing to say that I think in ninety-five cases out of a hundred they are right in their medication.

DR. MARSHALL C. PEASE, New York: I cannot altogether agree with Dr. Beekman, for both acute and chronic appendicitis are fairly common in children—even in young children. That 100 per cent of the children coming into the hospital already have a perforation bears out the importance of the condition because that means that the diagnosis was not made as early as it should have been made. I do not altogether agree with Dr. Peterson that the diagnosis is so easy, and I would rather agree with Dr. Beekman on that particular point. A group of cases in which a mortality rate of 33 per cent, or higher, is commonly accepted should be a reminder that appendicitis not only does occur in young children but should also serve to emphasize the importance of making an abdominal examination for a possible appendicitis in cases with fever and vomiting before going on with the treatment. If an early diagnosis is made, the death rate will be no higher than in adult life, and any community that has a death rate of anywhere near 18 per cent or above for appendix operations ought to feel disgraced; and yet 35 per cent is the figure for young children. Sometimes an exploratory operation is necessary to find out exactly what the trouble is.

Differential Section of Trigeminal Root in Surgical Treatment of Trifacial Neuralgia

DR. BYRON STOOKEY, New York: From the theoretical standpoint, the fact that there are in the trifacial root and in the gasserian ganglion two distinct nerves, certain clinical facts may be deduced. Trigeminal neuralgia occurs in the thalamic division with rare exception. I have had five cases in which I have saved the thalamic division at operation, with no recurrence of the pain. The patients have been saved the development of keratitis and possible removal of the eye. From the accidental finding of this result, it would appear justifiable in patients having pain in the thalamic division to save the thalamic division and cut through the second and third divisions. It is in these zones that the pain arises and spreads to the thalamic. In this operation, if two or three years hence the patient has a return of the pain, a second operation can be done, cutting the thalamic division. Where the choice lies between having the eye intact, and the possibility of a second operation, the second procedure is the one of election.

DISCUSSION

DR. MARTIN B. TINKER, Ithaca, N. Y.: Dr. Stookey's suggestion of dividing only the portion of the root which supplies the nerve affected, the third division, seems well worth considering. I agree with him that secondary operations in these cases, if the first operation has been done properly, should be easier than the first. One sees a good many instances of distressing neuralgia in young persons, and it is desirable to save as much as is possible.

DR. JOHN L. ECKEL, Buffalo: Any method of procedure that will prevent keratitis and in many instances the loss of an eye, and at the same time have sensation of the conjunctiva retained is a big advance in the surgery of this particular disease. If we can, at the same time, save the motor division of the fifth nerve and thus prevent atrophy of the muscles of mastication, we have added much. As time goes on and more experience of this method is had, it may be possible to remove the offending branch in each case and leave the other two branches intact, as well as the motor nerve, and thus relieve the patient of the terrible pain of this affliction with a minimum amount of sensory change and with no danger of corneal ulcers and no atrophy of the muscles of mastication.

(To be continued)

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

31: 315-458 (March) 1926

*Light and A-Body. C. E. Bloch, Copenhagen, Denmark.—p. 315.
Respiratory Metabolism in Infancy and in Childhood. I. Basal Metabolism. S. Z. Levine and J. R. Wilson, New York.—p. 323.
*Id. II. Ketosis and Respiratory Exchange. J. R. Wilson, S. Z. Levine and H. Rivkin, New York.—p. 335.
Auricular Fibrillation in Child Aged Four Years. W. H. Resnik and W. J. Scott, Baltimore.—p. 357.
*Intravenous Injection of Hypertonic Salt Solution in Acute Poliomyelitis. T. C. Smith, Louisville, Ky.—p. 360.
*Insulin in Malnutrition. L. Fischer and J. L. Rogatz, New York.—p. 363.
*Prevalence and Prevention of Acute Respiratory Diseases in Children Under Five Years of Age. J. O. Jones, Chicago.—p. 373.
*Recurrent Rickets: Eight Cases. A. F. Hess, New York.—p. 380.
Value of Nutrition Classes to Undernourished Child. A. D. Kaiser, H. J. Norton and E. M. Walker, Rochester, N. Y.—p. 386.
Acidified Milks: Review. H. K. Faber, San Francisco.—p. 395.

Light and A-Body.—Bloch says that exposure neither to carbon arc light nor to sunlight cures xerophthalmia. Light cannot replace the A-body or supply it to the animal organism. On the other hand, it follows from investigations reported on by Bloch that in addition to its hitherto recognized reaction, light is indispensable to the animal organism, in that the radiant energy of ultraviolet light is essential to various functions. This energy is absorbed by the organism partly by direct radiation and partly through articles of diet (that is, cod liver oil, the yolk of eggs, and, to some extent, milk) which are charged with it.

Ketosis and Respiratory Exchange in Children.—The results reported by Wilson et al. are based on data derived from measurements of the respiratory exchange of six children during the ketosis induced by fasting and by administration of low carbohydrate, high fat diets. The evidence adduced is in accord with the clinical observation that children are particularly sensitive to ketogenesis. It also suggests a tentative explanation for the exaggeration of this tendency in the group of children known clinically as "cyclic vomiters."

Salt Solution Intravenously in Acute Poliomyelitis.—In a very severe and seemingly fatal case of acute poliomyelitis Smith injected 40 cc. of a 30 per cent sodium chloride solution into the right femoral vein. The child recovered, and Smith feels that the life of the boy was saved by the therapeutic measures employed, as no one who saw him just before treatment believed it possible for him to live.

Insulin in Malnutrition.—Fischer and Rogatz report the results obtained in twenty-seven malnourished infants, who were given insulin. Of these, seventeen results were distinctly successful, with marked gain in weight and improved nutrition. Five cases were indifferent, showing no change during or after treatment. Four cases were confusing, so far as a change of formula was necessary during the period of trial. One child died in a state of acute intoxication, despite the persistent use of insulin intravenously. In those cases reported as successful, there were no changes in diet or in management, other than the use of insulin combined with 20 per cent solution of glucose, to which improvement could have been attributed. No ill effects from individual doses of insulin were observed. Insulin given in repeated small doses seems to have a cumulative effect, which culminates in a rise in temperature, anorexia and loss of weight.

Vaccination Against Pneumonia. — Vaccination by the Chicago Pneumonia Commission against pneumonia as a protective measure is recommended in institutions for foundlings; in hospitals for babies under 2 years of age; for all patients with measles and whooping cough who are cared for in institutions; for all patients quarantined in their homes during the winter months, and for patients with rickets, especially colored children.

Recurrent Rickets.—The conclusion drawn by Hess is that recurrences of rickets are very frequent, especially during the second year of life. Hence, specific therapy—whether cod liver oil or ultraviolet irradiation—should be continued after all signs and symptoms of rickets have disappeared. Furthermore, cod liver oil should be given not only during the first, but also during the second, winter. This is advisable particularly in regard to infants who have had rickets and who are, therefore, susceptible to a recurrence in the course of the subsequent winter.

American Journal of Pathology, Boston

2: 1-97 (Jan.) 1926

*Auricular Endocarditis of Rheumatic Origin. W. C. Von Glahn, New York.—p. 1.
Case of Rheumatic Aortitis with Early Lesions in Media. A. M. Pappenheimer and W. C. Von Glahn, New York.—p. 15.
*Compensatory Hypertrophy of Thyroid. VII. Influence of Iodine on Hypertrophy of Thyroid. L. Loeb, St. Louis.—p. 19.
"Malignant Thymoma": Case of Primary Carcinoma of Thymus. N. C. Foot, Cincinnati.—p. 33.
*Fate of Reacting Leukocytes in Tuberculin and Reinfection Reactions. F. W. Stewart, P. H. Long and J. I. Bradley, Boston.—p. 47.
*Persistence of Glomerular Circulation Following Occlusion of Renal Vein of Kidney in Cat. I. T. Zeckwer, Boston.—p. 57.
*Lipoid-Containing Cells in Spleen in Diabetes with Lipemia. S. Warren and F. Root, Boston.—p. 69.
*Primary Gelatinous Cylindrical Cell Carcinoma of Lung. W. Hueper, Chicago.—p. 81.
Supravital Study of Leukocytes in Allergic States: Comparison of Delayed and Immediate Intrapleural Anaphylactic Reactions. P. H. Long and F. W. Stewart, Boston.—p. 91.

Auricular Endocarditis of Rheumatic Origin.—Von Glahn is convinced that there occur in the endocardium of the auricle lesions which are distinctive, both grossly and histologically, of rheumatic endocarditis. The endocardium of the left auricle is more frequently the site of the lesions than that of the right auricle. In the series of nine cases studied, the left auricle was involved in approximately one third of the cases of rheumatic valvular endocarditis.

Compensatory Hypertrophy of Thyroid.—On the basis of a very large number of experiments, it is stated by Loeb that potassium iodide does not prevent or even diminish the hypertrophy of the thyroid gland in the guinea-pig, which follows extirpation of a great part of the thyroid gland. On the contrary, in all his experiments the average of hypertrophy was greater in the animals which received potassium iodide than in the control animals. There are, in addition to the amount of thyroid removed and the amount of iodine fed to the animals, other variable factors which influence the degree of hypertrophy following extirpation, such as seasonal changes. On the basis of these results a tentative explanation of the influence of iodine on the structure and function of the thyroid gland is given.

Fate of Leukocytes in Tuberculin Reactions.—Stewart, Long and Bradley are certain that evidence derived from their experiments points to the fact that in the tuberculin and reinfection reactions the reacting cells are sensitized, and in early stages of the reaction undergo necrosis. Treated with appropriate doses of antigen, they undergo early death. These first cells are gradually replaced by others, due probably to the presence of necrotic tissue. The newly emigrating cells are viable elements.

Glomerular Circulation Following Occlusion of Renal Vein.—Ligation and section of the renal vein of one kidney in cats result in congestion and edema followed by a clearly defined zone of necrosis in the periphery of the cortex, beneath which there is a zone in which tubules are degenerating and glomeruli remain intact. Zeckwer says that the persistence of glomeruli with destruction of tubules indicates that there is a certain independence of the glomerular circulation from that of the tubules.

Lipoid Containing Cells in Spleen in Diabetes.—Three cases of diabetes mellitus with large lipoid-containing cells occurring in the spleen are reported by Warren and Root and compared with eight others collected from the literature. Lipemia was present in all cases but one. The lipoid material in the cells, so far as can be judged from staining reactions, consists of cholesterol esters or related substances, or phosphatides. Fatty acids or soaps may also be present. The reticulo-endothelial system is probably involved in lipoid metabolism, and may perhaps selectively absorb cholesterol compounds or phosphatides. Arteriosclerosis appears to be associated with this condition. Lipemia, produced by a high caloric diet, by a poorly balanced diet or by the general cachectic state of the tissues in severe diabetes, may predispose to atheromatous degeneration in the arteries.

Primary Carcinoma of Lung.—The tumor in Hueper's case was a primary gelatinous cylindric cell carcinoma of the lung, starting from the alveolar epithelium. He feels that two cases reported by Helly and Löhlein as benign adenomas of the lung must be considered as primary gelatinous cylindric cell carcinomas of the lung starting from the alveolar epithelium. The finding of acid-fast bacilli in the sputum of a patient with gangrenous processes in the lung due to a carcinoma may sometimes lead to the wrong diagnosis of pulmonary tuberculosis.

Archives of Dermatology and Syphilology, Chicago

13: 301-464 (March) 1926

*Treatment of Neurosyphilis by Malaria. P. A. O'Leary, W. H. Goeckerman and S. T. Parker, Rochester, Minn.—p. 301.
Teaching of Dermatology in Medical Schools. C. G. Lane, Boston.—p. 321.
Erythema Multiforme: Case with Necropsy. E. L. McEwen, Chicago.—p. 331.
Hyperglycemia: Therapeutic Application in Certain Dermatoses. I. L. McGlasson, San Antonio, Texas.—p. 338.
Endothermy (Electrodesiccation) in Dermatology. F. Wise and J. J. Eller, New York.—p. 344.
XLV. Large Spored Ringworm Infection: Treatment with Foreign Protein Injections. M. F. Engman, St. Louis.—p. 352.
Congenital Alopecia: Two Cases. E. A. Oliver and N. C. Gilbert, Chicago.—p. 359.
Morphologic Variations in Ringworm Species of Toes, Followed in Primary Cultures over Period of Years. F. D. Weidman, Philadelphia.—p. 374.
Erythema Elevatum Diutinum: Case. W. B. Trimble, New York.—p. 383.
*Sarcoid of Boeck: Three Cases. K. P. Frost, Los Angeles.—p. 389.
Ringworm of Scalp in Adult. Case of Kerion Due to Microsporon Audouini H. Fox, New York.—p. 398.

Treatment of Neurosyphilis by Malaria.—A report is made by O'Leary of the preliminary observations after a ten months' trial of a series of thirty-five patients with neurosyphilis who were inoculated with malaria plasmodia. Of twenty-four patients with frank paresis, 25 per cent showed a complete remission that allowed them to return to their former occupations within two months after the malaria was stopped; 37 per cent were definitely improved in one way or another, and two died, one as a result of malaria and the other six months later in convulsions. Thus far in the series, the "fever therapy" has had practically no effect on optic atrophy, gastric crises, persistent lightning pains with negative serologic findings, asymptomatic neurosyphilis and paresis sine paresi. The mental and physical symptoms were most favorably influenced by the treatment without change being observed in the objective findings. There have been no serologic changes in the blood or spinal fluid as yet. The use of arsphenamine, mercury or tryparsamide immediately after the malaria was attended with definite evidence of relapse from remission. The majority of the complications noted were transient and disappeared with the cure of the malaria, although complications attributable directly to the syphilis may cause some embarrassment. Myocarditis, nephritis, marked weakness or wild delirium may demand the cessation of treatment.

Sarcoid of Boeck.—Three cases of the Boeck type of sarcoid are described by Frost. Two of these show possible evidence of tuberculosis of the lung. In one, there is a healed process which shows only roentgenographically; in the other, there is a possibly more active process.

Archives of Internal Medicine, Chicago

37: 153-296 (Feb.) 1926

*Relation of Albuminuria to Protein Requirement in Nephritis. J. P. Peters and H. A. Bulger, New Haven, Conn.—p. 153.
*Oxygen Treatment in Pneumonia. A. L. Barach, New York.—p. 186.
Gastric Secretion in Experimental Beriberi in Dog. M. B. Farnum, Chicago.—p. 212.
*Healing of Gastric Ulcers. B. B. Crohn, S. Weiskopf and P. W. Aschner, New York.—p. 217.
*Acute Mercuric Chloride Poisoning. L. A. Kohn, Rochester, N. Y.—p. 225.
*Inorganic Phosphorus and Calcium of Blood in Nephritis. H. W. Schmitz, E. L. Rohdenburg, New York, and V. C. Myers, Iowa City.—p. 233.
*Acute Febrile Anemia: A New Disease? I. C. Brill, Portland, Ore.—p. 244.
*Changes in Respiration, in Circulation and in Coagulation Time of Blood Produced by Sodium Citrate Injections. M. Joannides, Chicago.—p. 248.
Testing of Liver Function. I. Detoxication by Liver. H. Vessell and C. P. Sherwin, New York.—p. 257.
*Paroxysmal Dyspnea as Symptom of Syphilitic Aortitis. C. S. Keefer and W. H. Resnik, Baltimore.—p. 264.
Evidence of Nervous Control of Leukocytic Activity by Involuntary Nervous System. E. F. Mueller, New York.—p. 268.
*Intradermal Salt Solution Test in Cardiac Disease in Children. H. C. Olmstead, Seattle.—p. 281.
*Excretion of Phenolsulphonphthalein in Obstructive Jaundice. H. A. Abramson, New York.—p. 291.

Relation of Albuminuria to Protein Requirement in Nephritis.—A study of the nitrogen metabolism of certain patients with acute and chronic parenchymatous nephritis has been made by Peters and Bulger in an attempt to determine to what extent protein lost as albumin in the urine can be replaced by food protein. The total urinary nitrogen of these patients was not a satisfactory measure of nitrogen catabolism. The nitrogen catabolism could only be estimated from the urinary nonprotein nitrogen, after proper allowance had been made for changes in blood and tissue nonprotein nitrogen and variations of body weight due to diuresis or accumulation of edema. By the administration of large amounts of carbohydrate and fat, it was possible to reduce the protein catabolism to from 0.5 to 0.7 Gm. per kilogram a day. If enough protein was given to cover the nitrogen catabolism plus an additional amount equivalent to that lost as albumin in the urine, nitrogen wastage could be prevented. Abnormally high blood nonprotein nitrogen was observed only when the nitrogen catabolism was relatively high and usually returned to the normal level as the clinical condition of the patient improved and the nitrogen catabolism diminished.

Oxygen Treatment in Pneumonia.—Sixteen patients ill with pneumonia were treated with oxygen by Barach, ten in the portable oxygen tent and six by a combination of rebreathing apparatus and nasal catheter. These patients were selected because of the presence of arterial anoxemia. Of the ten patients treated in the tent, seven recovered. The three who died all suffered from pneumococcus type III lobar pneumonia with pneumococcus type III in the blood stream. Of six patients treated with the more portable apparatus, four recovered. The value of oxygen treatment is felt to be supportive and not curative. In severe dyspnea with cyanosis, oxygen treatment has appeared to prolong life until such a time as the immunity mechanism was able to accomplish recovery.

Healing of Gastric Ulcers.—In two cases reported by Crohn et al. in which partial gastrectomy was performed for gastric ulcer, operation was timed to take place at the end of a course of preliminary medical treatment. The specimens removed showed these ulcers in the last stage of healing. In one case, roentgen-ray examination just before operation showed the disappearance of the niche that had been present. It is believed that the rapid regression of ulcers in the intermission period will explain many cases of negative finding at exploratory laparotomy in cases with a suggestive ulcer history. In a series of such cases in which operation was done at a later date during a recurrence of the symptoms, the patient showed definite ulcer. The failure to demonstrate the lesion of a gastric or duodenal ulcer at exploratory laparotomy may, therefore, be due, at times, to the fact that the operation is carried out at a period in the life cycle of an acute ulcer when rapid regression and healing have obliterated the ulcer crater and made the lesion impossible of discernment.

Acute Mercuric Chloride Poisoning.—Evidence is presented by Kohn which suggests that direct myocardial damage may account, in part at least, for early toxic death from mercuric chloride taken by mouth. In three severely poisoned patients, the leukocyte count reached 34,000 or higher in a few hours, and it is suggested that the degree of elevation of the leukocytes may be an index of the severity of poisoning, with an unfavorable prognosis when levels of from 30,000 to 40,000 are found. While it is not denied that sodium thiosulphate may have value in treatment, it is emphasized that it may fail to exert detoxicant action, and should not be administered to the neglect of established therapeutic methods.

Blood Phosphorus and Calcium in Nephritis.—A relatively high percentage of cases of chronic interstitial nephritis with muscular twitchings or convulsions analyzed by Schmitz et al. showed values for the calcium of the blood serum below 7 mg. per hundred cubic centimeters. There was no uniform inverse relationship between the level of the inorganic phosphorus of the serum and the calcium in different cases. In other words, the retention of phosphorus had a greater influence in some cases than in others. However, in individual cases there was a gradual fall in the calcium with a rise in the inorganic phosphorus. There is little doubt in the minds of the authors about the reliability of inorganic phosphorus retention as a prognostic sign in chronic nephritis, but the creatinine is equally reliable, and the retention appears to occur a little earlier than is the case with inorganic phosphorus.

Acute Febrile Anemia.—Brill relates the case of a woman who had been severely ill with vomiting, malaise and a feeling of weakness for two weeks when he first saw her. Within the following day or two, the patient sank very low, becoming listless and picking at the bed clothes. She became pale and a generalized edema developed. There were several attacks of severe pain in the region of the spleen. These came on suddenly and lasted several hours. A blood count showed 27 per cent hemoglobin (Dare); 1,250,000 red cells; 5,750 white cells, with 61 per cent neutrophils, 36 per cent lymphocytes, 2 per cent eosinophils, and 1 per cent basophils. One week later the hemoglobin was so low that an accurate reading could not be made, but was probably about 15 per cent. The erythrocytes numbered about 1,000,000, and the leukocytes about 5,000, with a differential count essentially the same as in the previous examination. Blood cultures were consistently sterile. There was a deathlike pallor, numerous petechial spots, and a glassy edema involving the entire body; no jaundice was present. The patient was in a stupor, with labored respiration of the sighing type. The tongue was swollen and ashy gray. The heart action was feeble; the lungs appeared to be flooded with edema. The liver and spleen appeared moderately enlarged to percussion, but neither organ could be felt under the ribs. The temperature varied between 100 and 101 F., with an occasional rise to 103. The pupils were dilated and reacted sluggishly to light; the knee and ankle jerks could not be obtained. Finally, blood transfusion was resorted to and surprising improvement in the patients's general condition followed. Ten transfusions were performed in about five weeks. The amount of blood given varied from 300 to 500 cc., and the intervals between transfusions varied from one day to one week. The blood rose steadily, so that within a week after the last transfusion a practically normal count was obtained. At the end of two months the patient was up and around, enjoying normal health.

Effect of Sodium Citrate Injections.—Joannides' studies on man and on the dog showed that the injection of sodium citrate does not usually increase the coagulability of the blood. Intramuscular injections are less dangerous than intravenous injections. A 3 per cent solution of sodium citrate, which is isotonic with blood, has been fairly well tolerated by a patient who received from 300 to 450 cc. intravenously. This practice, however, is discouraged. Intravenous injections of great concentrations of sodium citrate are dangerous because they cause immediate respiratory and circulatory collapse. Small, repeated hemorrhages apparently have no effect on the coagulation time. On the other hand, when larger amounts of blood are removed they cause an increased coagulability of the blood. Citrated blood transfusion under such conditions increases the coagulability of the blood still more. Injections of 0.2 per cent sodium citrate solution in a 0.75 per cent sodium chloride solution invariably decrease the coagulation time of the blood and cause no toxic symptoms if the citrate dose is within the subtoxic limits. Sodium citrate apparently disappears from the blood stream since the toxic symptoms produced by the salt disappear quite promptly. Sodium citrate used in amounts corresponding to those for blood transfusion is a useful drug. In larger amounts or concentrations it is dangerous.

Paroxysmal Dyspnea in Syphilitic Aortitis.—In eighty-two cases of syphilitic aortitis proved by necropsy to have the characteristic anatomic lesions, paroxysmal dyspnea was present only when associated with aortic insufficiency, hypertension or aneurysm of the root or arch of the aorta. It would seem, therefore, that paroxysmal dyspnea was not a symptom due directly to syphilitic aortitis. Nevertheless, Keefer and Resnik regard it as an important symptom in the differentiation between the aortic insufficiency of syphilitic and of rheumatic origin.

Intradermal Salt Solution Test in Cardiac Disease in Children.—In a group of forty-seven children with rheumatic heart disease or allied conditions, it was found by Olmstead that the disappearance time of intradermally injected salt solution was normal (above fifty minutes) in well compensated nontoxic cardiac disease, acute rheumatic fever and chorea. In cardiac decompensation with edema, shortening of disappearance time was limited to edematous and pre-edematous regions and was noted earliest in the dependent parts of the body. Decrease in disappearance time did not precede other clinical signs of impending decompensation with sufficient constancy to make the test of much value in predicting a break in compensation. In certain severely ill patients having a cardiac disease without decompensation there was a marked and nearly equal decrease in disappearance time in the arm and leg. The intradermal salt solution test was of value in this generalized or toxic group in rendering an unfavorable prognosis. The disappearance time picture characteristic of the toxic group was altered in the direction of that characteristic of the decompensation group, if cardiac decompensation developed. In two patients tested after death, the disappearance time in edematous parts was practically as short as during life, which demonstrated that, under these conditions, circulation of the blood was not necessary in the phenomenon of disappearance of intradermally injected salt solution.

Phenolsulphonphthalein Excretion in Obstructive Jaundice.—The phenolsulphonphthalein excretion was found by Abramson to be normal in fifteen cases of obstructive jaundice with a varied etiology. In all of these cases, there was no evidence of renal insufficiency.

Archives of Otolaryngology, Chicago

3: 205-300 (March) 1926

Cancer of Larynx. J. E. MacKenty, New York.—p. 205.
Development of Membranous Labyrinth. G. E. Shambaugh, Chicago.—p. 233.
Malingering Deafness: Two Cases. J. C. Scal, New York.—p. 237.
New Method for Testing Hearing. S. Cohen and D. Nussbaum, Philadelphia.—p. 244.
Recent Otologic Problems. F. R. Nager, Zurich, Switzerland.—p. 252.
Acute Pemphigus of Throat, with Positive Vincent's Angina. H. A. MacGruer and A. H. Rubenstein, Syracuse, N. Y.—p. 259.
Teratoma of Throat. A. E. Bulson, Jr., Fort Wayne, Ind.—p. 262.

Archives of Pathology and Laboratory Medicine, Chicago

1: 169-328 (Feb.) 1926

*Experimental Intraperitoneal Transplantation of Endometrial Tissue. V. C. Jacobson, Albany, N. Y.—p. 169.
*Relation of Suprarenal Cortex to Thyroid and Thymus Glands. D. Marine, New York.—p. 175.
*Compression Myelitis Secondary to Echinococcus Disease of Vertebrae and Kidney. L. E. Hines, Chicago.—p. 180.
*Wintergreen Poisoning. N. C. Wetzel and J. D. Nourse, Cleveland.—p. 182.
*Leukocytic Reactions in Smallpox, Chickenpox, Scarlet Fever, Measles and Mumps. C. H. Bunting and E. Thewlis, Madison, Wis.—p. 189.
**Effect of Mercurochrome-220 Soluble on Germicidal Properties of Fresh Defibrinated Blood. J. E. Walker, *Hot Springs*, Ark.—p. 199.
*Effect of Solutions of Copper Sulphate on Ducks. C. T. Hurst, Berkeley, Calif.—p. 204.
*Aneurysm and Anomaly of Circle of Willis. L. Jacques, Chicago.—p. 211.
*Chronic Benzene Poisoning. F. J. Rohner, C. W. Baldridge and G. H. Hansmann, Iowa City.—p. 220.
*Preservation and Transportation of Blood for Chemical Study. H. J. John, Cleveland.—p. 227.
*Reactions of Mitochondria to Cellular Injury. E. V. Cowdry, New York.—p. 237.

Experimental Intraperitoneal Transplantation of Endometrial Tissue.—Intraperitoneal transplantation of endometrium has been studied by Jacobson in the rabbit and the monkey (*Macacus rhesus*). In a series of nineteen rabbits, when the operation was performed during estrus, it was successful in sixteen, or 84 per cent. In six rabbits so treated during the restful stage only one showed a "take." In six animals operated on during pregnancy, there were implantations in two, or 33 per cent. An increased vitality or "virulence" is suggested for rabbit endometrium during estrus. Ectopic endometrial growths in five castrated rabbits showed the same atrophic changes seen in the uterine cornua. The implants were invariably cystic adenomatoid structures, often multilocular, and were found on the broad ligament, vagina, uterus, urinary bladder and large intestine. Five *Macacus rhesus* monkeys were subjected to hysterotomy, curettage and intraperitoneal transplantation of the curettings. In four animals ectopic growths were produced, which were confined to the uterus and adhesions about it. Operative trauma was probably responsible for the localization of the implants in this region. In one monkey actively menstruating when killed, ectopic endometrial tissue on the uterus and in the ovary was also menstruating. The successful inoculation of the peritoneum of the rabbit and the monkey with their own endometrium, the general location of the growths produced, their histologic character, the manner of their development and their reaction to the ovarian hormone, Jacobson asserts, are all in favor of Sampson's theory of the origin of most cases of ectopic endometriosis in man.

Relation of Suprarenal Cortex to Thyroid and Thymus.—Recent experimental evidence is summarized by Marine as follows: Thyroidectomy hastens involution of the thymus. Gonadectomy delays this involution but does not cause regeneration. Suprarenalectomy not only delays involution of the thymus and lymphoid tissues, but also actually causes their regeneration. Thyroidectomy prevents this reaction even after combined suprarenalectomy and gonadectomy. Suprarenalectomy plus gonadectomy is a more powerful stimulus for thymus and lymphoid regeneration than either of these influences alone. The combined effect of these two factors results in certain lymphoid and thymus hyperplasia in rabbits and rats, which persists until regeneration of accessory interrenal tissue corrects the physiologic effect. The syndrome thus experimentally produced resembles status lymphaticus and is believed to depend mainly on a partial loss of certain functions in the interrenal and sex glands rather than of the chromaffin tissue. The normal and abnormal lymphoid and thymic hyperplasias of infancy and childhood are believed to be manifestations of a functional underdevelopment of the interrenal and sex glands of varying intensity. The so-called lymphatic constitution which underlies or accompanies exophthalmic goiter and Addison's disease also appears to be dependent on a partial suppression of certain functions of the interrenal and sex glands.

Extradural Spinal Hydatid Cyst Causes Compression Myelitis.—A case of echinococcus disease is reported by Hines in which the spinal cord was compressed by hydatid cysts that developed outside the dura mater. Recent cystic changes in the vertebrae and an old echinococcus cyst of the kidney were associated findings.

Oil of Wintergreen Poisoning.—The clinical and pathologic features of poisoning due to oil of wintergreen are described by Wetzel and Nourse, in connection with a complete review of all the cases so far reported. Fatal poisoning may be produced by relatively small amounts of methyl salicylate. Absorption of less than 15 cc. has repeatedly resulted in death. Vascular changes are the most prominent among the effects. Multiple subserous hemorrhages of the heart, lungs and meninges, and parenchymatous hemorrhages of the brain, lungs and kidneys are produced. An unusually extensive subdural hemorrhage occurred in the present case. The authors warn that particular caution should be exercised to prevent the indiscriminate use of pharmaceutical preparations containing oil of wintergreen.

Leukocytic Reactions in Exanthematous Diseases.—There seems to be an early reaction of the neutrophil leukocytes in all these diseases. This is most pronounced and most prolonged in scarlet fever. This is followed by a depression in number of these cells and even by an inhibition of their production or supply, most marked in measles. This depression is followed by a return to normal and to a moderate leukocytosis, most evident in smallpox, in which the local skin lesions apparently are responsible. The lymphoid cells, on the other hand, show an early depression in number, followed in every case by a definite curve of reaction, with lymphocytosis often of marked degree at the peak. Bunting and Thewlis believe that in the case of the neutrophil it is the reaction to living organisms and local injury produced by them, and in the case of the cells of the lymphoid group, it is the reaction to toxins. The eosinophil reactions appear to be connected with inflammations in the skin and mucous membrane, although emigrated eosinophils are constantly found in lymphoid tissue when subject to toxic injury. The monocyte reactions have not been sufficiently uniform to give evidence of a general type of reaction. These pictures are not presented as being of value in the diagnosis and differentiation of the infectious diseases, yet they have been used practically in conjunction with suggestive clinical evidence in leading to the isolation of patients before the distinctive manifestations of the particular infection have appeared.

Effect of Mercurochrome on Germicidal Properties of Blood.—Walker's experiments are said to show that mercurochrome-220 soluble in the concentration of from 1:25,600 to 1:400 has no appreciable effect on the bactericidal activity of fresh defibrinated blood toward the colon bacillus; 1:200 mercurochrome completely destroys this activity. Staphylococci and streptococci grow much more luxuriantly in blood containing from 1:25,600 to 1:400 mercurochrome than they do in fresh defibrinated blood without mercurochrome. This effect seems to be brought about by an injurious action of mercurochrome on the leukocytes and constitutes at least a theoretical objection to its use intravenously. Any beneficial results following the clinical use of mercurochrome in septicemia cannot be attributed to a specific action of mercurochrome on the causative micro-organism.

Aneurysm and Anomaly of Circle of Willis.—In a woman, aged 73, the circle of Willis was bilaterally incomplete. The right posterior communicating artery took the course normally taken by the right posterior cerebral artery. At the site of origin of the left posterior communicating artery was an aneurysm 2.5 cm. in its greatest diameter. Cerebral aneurysm associated with anomalies of the posterior communicating arteries of the circle is rare. The senile atherosclerosis present in the case reported by Jacques may have had a part in the formation of the aneurysm, rendering the involved vessel more susceptible to the mechanical factors brought about by the anomalies of the circle of Willis. The aortic and mitral valves and the myocardium were the seat of recent rheumatic changes. There was nothing to indicate that such changes occurring at an earlier period of life had a part in the formation of the aneurysm. There was no clinical or anatomic evidence of syphilis. Progressive amaurosis, more marked on the left than on the right side, was the essential manifestation of the condition.

Chronic Benzene Poisoning.—The case reported by Rohner et al. though complete in presenting all of the features so far recognized, adds nothing that is new, except possibly, the relative immunity of endothelial leukocytes in benzene (benzol, C_6H_6) poisoning and the absence of evidence of adult erythrocyte destruction. The necropsy also confirms the morbid anatomic changes described in animals. The established facts in chronic benzene poisoning are included in the following list: leukopenia, aplastic anemia, thrombocytopenia, aplasia of the bone marrow, and absence of inflammatory cell response to infection. The history of exposure to benzene in this case has been verified, thus making the chain of evidence complete.

Vacuum Tube for Mailing Blood Samples.—A vacuum tube has been devised by John for collecting, preserving and mailing blood samples. The vacuum tube contains 20 mg. of fluoride-thymol mixture (10:1), which will prevent 10 cc. of blood from clotting, and maintain the blood sugar at its original level. This makes it possible to send blood specimens to more or less distant laboratories for examination and obtain reliable results.

Archives of Surgery, Chicago

12: 619-788 (March) 1926

*Healing of Simple Fractures. F. E. Blaisdell and J. F. Cowan, San Francisco.—p. 619.
*Cancer of Skin. I. J. J. Morton, New Haven, Conn.—p. 655.
Sacral Anesthesia. R. E. Farr, Minneapolis.—p. 714.
*Leontiasis Ossea as Manifestation of Paget's Disease. L. P. Hamburger and I. W. Nachlas, Baltimore.—p. 727.
*Pathology of Joint Tuberculosis in Its Earliest Stages. A. D. Smith, New York.—p. 740.
*Effect of Sympathetic Nervous System on Peripheral Vascular System. W. B. Mosser and K. P. A. Taylor, Philadelphia.—p. 760.

Healing of Fractures.—An experimental study was undertaken by Blaisdell and Cowan to determine the changes occurring in the different tissues of long bones following simple fracture which finally result in osseous union of the fragments. The findings are reported in detail.

Cancer of Skin.—Twenty-nine cases are reported by Morton. He is certain that a combination of surgery and radiotherapy is desirable in every case. The primary growth should be disposed of rapidly by electrocoagulation or cautery removal, thus eliminating one dangerous zone as a focus from which metastasis may occur. Squamous cell cancers of the scalp and forehead do not require removal of the regional glands; cancers of the face, cheek, eyelid, chin and nose, however, should have the glands removed also. Growths on the extremities and scrotum are prone to metastasize, and the regional glands are frequently involved. The squamous cell growths on the ear may metastasize to the parotid, preauricular or postauricular glands or to glands of the neck. Whenever possible, cooperation between surgeon and radiotherapist will offer the best chance of bettering results.

Leontiasis Ossea of Long Duration.—Hamburger and Nachlas report a case of leontiasis ossea of twenty-eight years' duration. The onset was during pregnancy. Roentgenologic study of the skull and long bones showed changes characteristic of Paget's disease.

Pathology of Joint Tuberculosis.—Of a series of twenty-three cases of joint tuberculosis seen by Smith in which it could be determined where the disease began, seventeen were primary synovial and three primary bone lesions. In three other cases the disease probably started in the bone. It is believed that the disease starts in the synovial membrane in the majority of cases in the knee and probably in other joints as well. The course of the disease was slower and more insidious in the synovial cases than in those with bone lesions. When a bone lesion was present it was easily recognizable by roentgen-ray examination. No instance was found in which the disease was confined to an epiphysis, although there were three in which it started in the metaphyses.

Effect of Sympathetic Nervous System on Peripheral Vascular System.—Mosser and Taylor summarize their results as follows: Periarterial sympathectomy in dogs and cats has uniformly failed to produce hyperthermia. Alcoholic injection of the sciatic nerve in sufficient strength to produce motor paralysis has resulted in a constant hyperthermia. The minimum concentration necessary to produce paralysis produces a maximum hyperthermia. Recovery of motor function occurs in practically all cases, even though concentrated solutions are used.

Boston Medical and Surgical Journal

194: 425-470 (March 11) 1926

Juvenile Delinquency and Probation. J. C. Parsons, Boston.—p. 425.
Responsibility: Medical Point of View. A. Myerson, Boston.—p. 427.
Observations of Medical Man in Orthopedic Clinic. D. C. Hall, Boston.—p. 432.
Pierre Fidule Bretonneau, 1778-1862. W. P. Coues, Boston.—p. 440.

194: 471-518 (March 18) 1926

Hypernephroma. A. L. Chute, Boston.—p. 471.
Public Health Administration in Boston. F. X. Mahoney, Boston.—p. 479.
Municipal Preventive Medicine. C. F. Wilinsky, Boston.—p. 481.
Id. As Applied to School Child. J. A. Ceconi, Boston.—p. 485.
Rôle Played by Physicians in Discovery of World. W. P. Coues, Boston.—p. 494.

194: 519-568 (March 25) 1926

Maternal Nursing. J. Garland, Boston.—p. 519.
Cholecystography. F. W. O'Brien, Boston.—p. 522.
*I. Relation of Blood Supply to Ovarian Function in Rabbit. D. Macomber, Boston.—p. 529.
*Fatal Asthma. F. M. Rackemann, Boston.—p. 531.
Strangulated Retrocolonic Hernia of Ascending Colon and Cecum: Operation and Recovery. W. Van Hook, Chicago.—p. 534.
*Vitamin Potency of Cod Liver Oils. XIV. Variation in Daily Food Consumption of Experimental Animals. A. D. Holmes and M. G. Pigott, Boston.—p. 537.
Nonpneumatic Lung Collapse. H. F. Gammons, Alexandria, La.—p. 538.
Nystagmus. E. B. Dunphy, Boston.—p. 539.

Relation of Blood Supply to Ovarian Function.—The results obtained by Macomber in his experiments are suggestive that interference with the normal nerve and blood supply, although not in any way sufficient to cause necrosis or gross pathologic changes, did interfere markedly with function. In certain cases the normal function was restored after a prolonged period; in others, immediate or eventual sterility was produced. A preliminary study of these sections shows evident histologic changes.

Fatal Asthma.—Rackemann relates the case of a woman, aged 43, with a history of hay-fever between the ages of 14 and 31, and positive skin reactions to timothy and ragweed. When the hay-fever stopped she began to have asthma, at long intervals. Two years ago, this asthma became very much aggravated and the attacks came often and were of longer duration. Finally, death occurred during a severe paroxysm. In spite of positive skin reactions, the evidence of an extrinsic cause of the asthma was not clear, since attacks had occurred at different seasons and with different surroundings. Removal to a room in the hospital relatively free from dust did not help her. The fact that the asthma occurred in well defined attacks is unexplained. Clinically, there was no cause of death other than asthma, and at necropsy, there was found only acute dilatation of the right ventricle, together with pulmonary emphysema.

Testing Vitamin Potency of Cod Liver Oil.—Holmes and Pigott suggest that for testing the vitamin content of cod liver oil it is preferable to feed the oil under consideration separate from, rather than as a constituent of, the experimental diet.

Mental Hygiene, Albany, N. Y.

10: 1-224 (Jan.) 1926

Dynamics of Relation of Physician and Patient. W. A. White, Washington, D. C.—p. 1.
Psycho-Analysis as General Psychology. O. Rank, Vienna.—p. 12.
Kindergarten as Mental Hygiene Agency. A. Gesell, New Haven.—p. 27.
Enuresis as Psychologic Problem. H. T. Woolley, Detroit.—p. 38.
Need for More Adequate Provision for Care of Psychopathic Child. A. E. Dartt, New York.—p. 54.
Relation of Intelligence to Behavior. I. S. Wile, New York.—p. 62.
Physical Findings in Problem Children. W. E. Carter, Los Angeles.—p. 75.
Significance of Physical Disease in Relation to Behavior Problems. E. R. Eisler.—p. 85.
Forms of Psychogenic Tiredness. K. M. B. Bridges.—p. 90.
Psychiatric Phases in Vocational Guidance. H. M. Tiebout, Cleveland.—p. 102.

Tennessee State Medical Association Journal, Nashville

18: 215-247 (Dec.) 1925

*Typhoid Inoculation. F. L. Roberts, Trenton.—p. 215.
Early Treatment of Eye Injuries. W. W. Wilkerson, Nashville.—p. 224.
Some Attributes of Human Mind. J. W. Barksdale, Jackson.—p. 226.
Pulsating Exophthalmus: Case. R. H. Newman, Knoxville.—p. 229.
Treatment of Hyperthyroidism. N. S. Shofner, Nashville.—p. 232.

Typhoid Inoculation.—Roberts presents data showing the changes in the typhoid rate in Tennessee following wholesale inoculation. The morbidity and mortality decreased as the number of inoculations increased. In one county alone, the morbidity rate fell from 41.6 to 15.1 in six years, when 15 per cent of the population had been inoculated.

CORRECTION

Red Light Treatment of Herpes Zoster.—The article on Treatment of Herpes Zoster (*California & Western Med.* **24:**46 [Jan.] 1926) listed in The Journal, March 13, 1926, p. 805, was wrongly credited to H. J. Jackson instead of to H. P. Jacobson.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

British Journal of Dermatology and Syphilis, London

38 101 142 (March) 1926

Primary Benign and Malignant Melanoma of Skin Normal Pigment Function L McCarthy and L K McCafferty —p 101
Superficial Telangiectases on Lower Part of Legs K Edel —p 112

British Medical Journal, London

1 463 514 (March 13) 1926

*Excretion of Alcohol in Urine as Guide to Alcoholic Intoxication H W Southgate and G Carter —p 463
Puerperal Mortality E Maclean —p 469
Maternal Mortality and Morbidity L McIlroy —p 471
Treatment of Severe and Persistent Uterine Hemorrhage by Radium S Forsdike —p 472
Importance of Bence Jones Albumosuria in Diagnosis E S Reynolds —p 475
*Floating Appendix C L G Chapman —p 476
*Raw Pancreas in Diabetes Mellitus E F Neve —p 476
*Round Cell Sarcoma of Pancreas in Infant A Deane —p 476
*Unusual Presentation D J Malan —p 476
Pregnancy in Double Uterus J C Macgown —p 476

Guide to Alcoholic Intoxication —A knowledge of the concentration of alcohol in the blood Southgate and Carter consider the best guide to alcoholic intoxication The indirect method of deducing the blood concentration from a knowledge of the urine alcohol concentration gives a close approximation By means of actual tests a maximum safety level can be fixed on for the blood and urine alcohol concentration Experimental evidence is given to show that there is a basis for the method The method used of estimating alcohol in the urine was that of Cannan and Sulzer

Radium Therapy for Uterine Hemorrhage.—Forsdike analyzes 200 cases of so called idiopathic or essential uterine hemorrhage in which radium therapy was effective in checking the bleeding In nearly all cases at or near the menopause (128 cases) one exposure suffices to establish amenorrhea Three patients were given a second treatment before amenorrhea was established and one patient required three exposures Late recurrence took place in some of these cases Of the 200 cases fourteen required two exposures, and six required three exposures before the menopause was induced but they occurred for the most part in younger women Practically all the cases which were refractory to a single treatment occurred in young women Thirty cases were complicated with fibroids

Floating Appendix —Three cases of so-called floating appendix are reported by Chapman When the abdomen is opened, the appendix is seen to be quite free erected and of a vivid scarlet, especially toward the tip There is no sloughing In the peritoneal cavity is some clear odorless fluid and some congestion of the surrounding peritoneum, but no adhesions of any kind, nor any plastic lymph A board like condition of the whole of the abdomen is the most pathognomonic symptom

Raw Pancreas in Diabetes Mellitus —Neve reports a case of diabetes in which insulin failed to check the glycosuria, whereas raw pancreas did, in fact, the urine remained sugar free while the pancreas was being administered, without additional insulin

Sarcoma of Pancreas in Infant —In the case cited by Deane, the baby was only 6 months old when she first became ill She died at the age of 11 months At the postmortem examination, a growth, 2½ inches (6 3 cm) square by 1 inch (2 5 cm) in thickness which proved to be a round-cell sarcoma, was found growing from the posterior surface of the pancreas There was free fluid in the peritoneal cavity The other organs were healthy

Unusual Presentation —In Malan s case the head, feet and legs were born together the fetus being doubled on itself and the head being in the left occipitoposterior position The feet were in advance of the head, and the anteromedial aspect of the tibiae rested against the left frontal bone deeply grooving the forehead, the tibiae showed marks of pressure for several days The mother had had fourteen children

Glasgow Medical Journal

105: 81 160 (Feb) 1926

Two Cases of Congenital Diaphragmatic Hernia J N Cruickshank —p 81
Suprarenal Gland H M Walker —p 85
*Chronic Intestinal Obstruction Three Cases A Walker —p 106
*Effects of Rheumatism in Children G A Allan —p 118

Chronic Intestinal Obstruction.—In the first of Walker's cases intestinal obstruction was due to a small annular carcinomatous tumor found at the splenic flexure of the colon, the second case was one of dyschesia and in the third case the obstruction was caused by a tumor in the pelvic colon

Treatment of Rheumatism in Children.—The treatment of rheumatic infection of children employed by Allan consists of the administration of salicylates in sufficient doses and over a long enough period of time to produce arrest of the infection, sufficiently long rest and gradual convalescence to limit the injury to the heart, and residence under suitable hygienic and climatic conditions to lessen the possibility of relapses

Indian Journal of Medical Research, Calcutta

13: 441 750 (Jan) 1926

Massive Infection of Pharynx of Phlebotomus Argentipes with Herpetomonas Donovani H E Shortt P J Barraud and A C Craighead —p 441
Present Position of Rat Bite Spirochete (Bombay) K Row —p 445
Photography from Microscope C M Hutchinson —p 449
*Occurrence of Paralyses After Treatment with Antirabic Vaccine J W Cornwall and W A Beer —p 467
*Rate of Multiplication of Rabies Fixed Virus in Rabbits J W Cornwall and W A Beer —p 475
Variation in Amount of Soluble Protein Contained in Old Broth Cultures of B Typhosus J W Cornwall —p 483
*Persistence of B Typhosus in Rabbits After Intravenous Injection J W Cornwall and W A Beer —p 491
Ankylostomiasis in Some Areas in British India V T Korke —p 493
First Case of Undulant Fever in Aden S D S Greval and C K Row —p 525
*Kala Azar on West Coast of India M R G Mudaliar T K Ramon and K R Menon —p 531
Some Medicinal Plants Growing in Himalayas R N Chopra —p 533
Ankylostomiasis Among Troops in Dehra Dun G Covelli —p 539
Relation Between Different Modes of Sterilization of Vaccine and Protective Power K R K Iyengar —p 547
*Attempt to Increase Virulence of Micro Organism by Method of Culture K R K Iyengar —p 555
Indian Species of Genus Phlebotomus XV Phlebotomus Newsteadi J A Sinton —p 559
Studies in Malaria I Introduction and Routine Methods J A Sinton—p 565
*Id II Effects of Treatment on Prevention of Relapse in Infections with Plasmodium Falciparum J A Sinton —p 579
*Id III Value of Provocative Methods in Diagnosis of Uncured Malarial Infections J A Sinton —p 603
New Heterakids from Indian Galliform Birds A C Chandler —p 617
Rate of Loss of Hookworms in Absence of Reinfections A C Chandler —p 625
*Effects of Vasoligation in Dogs J P Arland —p 633
Epidemiology of Cholera II A J H Russell —p 637
Chemotherapy of Antimonial Compounds in Kala Azar Infection XVIII Derivatives of P Amino Phenyl Stibinic Acid U N Brahmachari and J Dhas —p 693
Mechanism of Quinine Hemoglobinuria in Man II U N Brahmachari —p 695
Anopheline Fauna of Swamp in Bangalore M O T Iyengar —p 697
Kala Azar in Certain Endemic Areas in Southern India D A Turkhud and K V Krishnan and P V S Iyer —p 703

Paralysis After Antirabic Vaccine —Paralysis may follow injections of nerve substance derived from a normal animal or from an animal suffering from rabies To exclude the possibility of paralysis, either the quantity of nerve substance injected must be below a certain minimum, or else the nerve substance must previously be treated in such a way that the paralyzant is neutralized or removed and the antigenic property of the inoculum remains unaffected The toxic dose varies widely with the individual, some animals showing paralysis after less than 20 gm per kilogram of body weight, others tolerating over 1 Gm per kilogram without inconvenience The action of phenol renders the nerve substance slightly less toxic In antirabic treatment, it is desirable to be able to increase the dose of the antigen This could be done either by separating the antigen from its toxic vehicle or by neutralizing the toxicity of the vehicle The latter alternative seems the more practicable to Cornwall and Beer

Multiplication of Rabies Fixed Virus.—Cornwall and Beer assert that the rabies fixed virus does not multiply at such a rate that 0 01 Gm of brain substance can carry a lethal dose of it after two subpassages performed on the third day, but 0 01 Gm. of brain substance will always contain a lethal dose of it, if the subpassages are made on the fourth day or later.

Persistence in Body of Typhoid Bacillus.—*B. typhosus* was recovered by Cornwall and Beer from the gallbladder and from the liver tissue of an apparently healthy rabbit thirty-three months after an intravenous injection had been made.

Kala-Azar in India.—Mudalair and his associates are of the opinion that the geographic distribution of kala-azar has to be revised, since indigenous cases occur in the western half of India, which was previously supposed to be free from kala-azar.

Increasing Virulence of Germs by Culture.—Iyengar was unable to raise the virulence of *B. avisepticus* by repeated subcultures on a suitable medium. Animal passage was absolutely necessary to achieve increase in virulence. Iyengar says that what applies to "fowl cholera" may apply to other organisms as well.

Prevention of Relapses in Malaria.—The results of the treatment of about 800 cases of malignant tertian malaria contracted in northern India and observed under carefully controlled experimental conditions are reported by Sinton. He says that if this infection is treated for one week with 30 grains (2 Gm.) of quinine daily in solution, combined with alkaline treatment, at least 80 per cent, probably more, will be cured. A week's course of 30 grains daily in solution of quinine, cinchona febrifuge, or cinchona febrifuge and alkali will probably cure about 50 per cent of malignant tertian infections. Patients infected with *P. falciparum* are much more easily cured of their infections by the same doses of quinine than are those affected with *P. vivax*.

Diagnosis of Uncured Malaria.—Sinton avers that little or no advantage was gained in the diagnosis of uncured malarial infections by the use of injections of epinephrine or of strychnine.

Effects of Vasoligation.—Arland carried out the operation of vasoligation in dogs with good results. The first noticeable sign of rejuvenation was the enormous increase in appetite The most striking phenomenon was the great sexual change brought about, accompanied by an increase in the size of the penis and testes.

Irish Journal of Medical Science, Dublin

Sixth Series, 57-104 (Feb) 1926

Experiences at American and Canadian Clinics T. G Moorhead —p 61.
Teaching of Practical Midwifery and Gynecology D G Madill —p 70.
Some Principles in Plastic Surgery T P Kilner —p 77
*Case of Multiple Myomas H S Meade —p 82

Multiple Myoma.—Meade relates the case of a man who consulted him in November, 1921, concerning a "lump" on his right thigh. It was believed to be a subcutaneous cyst, but when it was removed in March, 1922, it was found to be a solid tumor growing in the fibers of the sartorius muscle. The subsequent pathologic report stated that the tumor was a pure leiomyoma. In addition to the tumor removed for examination, this patient had one on the left side beneath the nipple, one in the axillary line, and a third in the left popliteal space. All were subcuticular, except that in the popliteal space, which was more deeply situated The tumors shelled out easily. In June, 1924, the man had a fresh appearance of myomas, not at the previous sites, but in different parts of the body, the submaxillary triangle, the neck, the left nipple, the left axillary line, and the calves of both legs The largest tumor was in the abdomen in the region of the liver. No treatment was given at this time. In July, 1925, all the growths had increased slightly in size New tumors could be felt in the right forearm, in the left arm in front, in the buttock and in the middle of the back. The general condition of the patient was not such as one would expect if the growths were malignant Meade removed all the tumors, with the exception of those in the back and liver. The microscopic diagnosis was leiomyoma with a malignant change in operation. In November, 1925, two more tumors had appeared, one in the left arm and one in the left thigh. There was a marked increase in the size of the growth in the liver.

Lancet, London

1: 585 640 (March 20) 1926

Development of Psychopathology and Its Place in Medicine B Hart —p. 585
*Early Puerperal Retroversion V. Lack —p 592
*Hyperthyroidism Treated by Roentgen Rays A E Barclay and F M. Fellows —p 593
*Diabetes as Sequel to Acute Pancreatitis J P S Dunn, S Vatcher and A. S. Woodwork —p 595
*Two Cases of Cerebrospinal Fever. E James —p 597
*Case of Syphilis in Third Generation. W. K. Sibley —p 597.
Case of Pericardial Effusion of Tuberculous Origin J Gracie —p 598

Early Puerperal Retroversion.—Among 122 cases examined by Lack, the following abnormalities had been noted at the time of labor: 5 cases of contracted pelvis (1 treated by cesarean section, 4 by induction of premature labor) ; 1 severe accidental antepartum hemorrhage; 2 cases of placenta praevia, 1 pregnancy complicated by fibromyomas of uterus; 1 pregnancy complicated by ovarian cyst, and various other less important complications. During the puerperium, every endeavor was made to avoid the occurrence of retroversion. At the postnatal examination, the following abnormalities were noted: retroversion of the uterus, 8; subinvolution, 4, fibromyomas of uterus, 1; ovarian cyst, 1, pelvic thrombosis, 1. Retroversion of the uterus occurs during the first two weeks of the puerperium in from 5 to 10 per cent of all cases. The incidence of this condition has no relation to the parity of the patient, type of labor or abnormalities of the puerperium. The displacement can easily be corrected in most cases.

Hyperthyroidism Treated by Roentgen Rays.—Of 300 cases analyzed by Barclay and Fellows, a cure or good functional result was effected in 190 cases; seventy-five were improved; fifteen were not improved and twenty could not be traced. The cases were consecutive and unselected Eleven patients have died from intercurrent disease and three from hyperthyroidism

Diabetes as Sequel to Acute Pancreatitis.—Of several hundred cases of diabetes reviewed by Dunn et al, only two have been directly attributable to a previous acute infection of the pancreas There was reason to suspect the presence of gallstones in both these cases. The authors strongly emphasize the importance, both from the point of view of exact diagnosis and from that of treatment, of a roentgen-ray examination of the entire gastro-intestinal tract in every suspected case

Unusual Cases of Cerebrospinal Fever.—In the first case cited by James, the onset was very insidious with late meningeal involvement, though eventually, at least, the infection was of a virulent type. There was also absence of cranial nerve paralysis, with which may be correlated the postmortem findings and occurrence of hemorrhages in the heart muscle and intestine The age of the second patient, 7 weeks, was of interest

Syphilis in Third Generation.—In Sibley's case, the paternal grandfather was the originator of the disease. The parents of the patient were both very healthy. Neither parent ever revealed any signs or symptoms of the contagion

Practitioner, London

116: 177 280 (March) 1926

Doctor and Dietetics K Goadby —p 177
Army Rations W. Beverdige —p 181
Food and Public Health W J Howarth —p 187
Diet in Public Schools L. R Lempriere —p 193
Dietetics in Institutions for Children and Young People G H Culverwell —p 205
Criteria of Efficient Diet F G Hopkins —p 214
Chemistry of Vitamins A Harden —p 224
Vitamin Problem in Nutrition R H A Plummer —p 232.
Diet and Health M Hindheide —p 249.
Diet and Personal Habit H Scurfield —p 262
Bread in Relation to Diet R K Brown —p 268
Influence of Diet on Dentition J L Dick —p 275

South African Medical Record, Cape Town

24: 73 94 (Feb 27) 1926

Clinical Aspects of Neurosyphilis F. H. Kooy —p 74
Otologic Aspect of Neurosyphilis J. Luckhoff.—p 80.
Treatment of Neurosyphilis A R. Fraser — p 81
Regional Anesthesia C V Berry —p 83

Archives Franco-Belges de Chirurgie, Brussels

28: 845-936 (Oct.) 1925

*Calcification of Gliomas of the Brain. A. Van Dessel.—p. 845.
*Sympathectomy for Trophic Disturbances. J. Diez.—p. 875.
Bone Changes After Peripheral Denervations. K. F. Koch.—p. 911.

Calcification of Gliomas.—Van Dessel's twenty-two photomicrograms confirm the relative frequency of calcareous deposits in slowly growing brain tumors. Discovery of such deposits may turn the scale in favor of assumption of a slowly growing, benign tumor.

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Spirochetes and Gangrene of the Lung. Bezançon.—p. 189.
*Anesthesia for Cesarean Section. A. Brindeau.—p. 194.
Maternity Hospital for Tuberculous Women. A. Couvelaire.—p. 195.
*Transfusion of Blood in the New Born. P. Guéniot.—p. 206.

Intraspinal Anesthesia for Cesarean Section.—Brindeau reiterates that intraspinal anesthesia reenforces contraction and retraction of the uterus while it paralyzes the noncontractile zone of the cervix, vulva and perineum segment. The phenomena are similar to those from severing the lumbar spinal cord in gravid animals. The intraspinal injections were used for ninety-six cesarean sections (seventy-one suprapubic). In one instance no anesthesia resulted; in eight a little ether was required in addition. In all the other cases the anesthesia was perfect, and the operation undisturbed. Intraspinal anesthesia on 232 pregnant women was followed by death of two of the women; one was apparently healthy, the other had edema and pulmonary emphysema. Complications occurred only exceptionally. From 0.08 to 0.1 Gm. of procaine, dissolved in the patient's cerebrospinal fluid, was used for the injection. Almost total absence of hemorrhage and good postoperative recovery are the advantages of the method; but the possibility of a fatal outcome should be borne in mind.

Transfusions of Blood in the New-Born.—Guéniot advocates the use of transfusions in premature and congenitally weak infants who are losing in weight, notwithstanding proper care. Twenty infants born between six and a half and eight months of pregnancy were injected intravenously with from 10 to 20 cc. of citrated blood, from two to twenty-six days after birth. In ten the transfusion was followed by gain of weight the next day; in four a few days later; in two no improvement was manifest until a second transfusion three days later. The increase of weight was progressive and rapid. In five an abnormally low temperature rose the day after the transfusion; in three the cyanosis disappeared. The results were remarkable in six premature twins, and three prematurely born of tuberculous mothers. In such cases the transfusion may prove a useful adjuvant of prophylactic BCG vaccination. The large amounts of polymorphonuclear leukocytes may reenforce the deficient secretions, and thus improve digestion and assimilation in the prematurely born. The superior longitudinal sinus seems to be the most suitable place for the transfusion; there are no mishaps if the injection is made carefully. The mother, the father or other person serving as the donor should be group tested.

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50: 293-339 (Feb. 26) 1926

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50: *341-393 (March 5) 1926*

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50: 395-449 (March 12) 1926

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9: 561-620 (Dec.) 1925

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10: 1-48 (Jan.) 1926

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21: 97-192 (Feb.) 1926

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22: 757-908 (Dec.) 1925

*Sympathectomy for Lumbar Pains. O. Bittmann.—p. 757.
*Pedunculated Bone Grafts. J. Curtillet and R. Tillier.—p. 789.
Different Cartilaginous Formations in the Epiphysis and Their Rôle in Growth of the Bone. J. Franceries.—p. 805.
An Anomaly of the Biliary Passages. L. Desgouttes and A. Ricard.—p. 823.
Operative Closure of Artificial Anus. E. Pollosson and H. Comte.—p. 827.

Periarterial Sympathectomy for Pains in Lumbar Region.—Bittmann remarks that these pains are the most resistant of all symptoms to yield to treatment, and that in all medicine nothing else has elicited such a variety of ideas as to pathogenesis and treatment. In 6,240 gynecologic patients in a recent two years, at Brno, lumbar pains were the predominant complaint in 2,124 cases. In nine of these he decorticated the abdominal aorta for a stretch of 8 or 12 cm., including 4 cm. on the common iliac artery. The constant success of the intervention apparently confirmed his assumption that the pains are due to a visceral neurosis, and that the celiac plexus serves as a kind of central station to relay the impulses. He aims in treatment to block these efferent impulses by the periarterial sympathectomy, supplemented by removal of the inferior mesenteric ganglion. This does not remove the primary cause, but it blocks transmission of the pain reflex, and the lumbar pains are cured. He insists that it is not a dangerous operation, and that it has always answered the purpose in cases of secondary asthenia rebellious to all conservative measures.

Pedunculated Bone Grafts.—Curtillet and Tillier describe with illustrations three typical cases of pseudarthrosis of the tibia to show the indications for and the advantages of using a pedunculated graft for a neighboring or even a distant bone. The graft may be taken from the recipient bone itself, at a higher level, cutting a slanting pedicle in the soft parts with its base on the other bone, this base being on a level with the gap to be bridged by the graft.

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7: 243-320 (Jan.) 1926

Ophthalmology in 1925. A. Cantonnet.—p. 243.
*Preventive Treatment of Myopia. F. Terrien.—p. 249.
Diplopia. Chevallereau.—p. 254.
Acute Glaucoma in General Pathology. A. Terson.—p. 256.
Treatment of Senile Ectropion of the Lower Lid. Aubaret.—p 261.
Eye Lesions in Epidemic Encephalitis. F. Bourdier.—p. 265.
The Retinal and the Cerebral Circulation. P. Bailliart.—p. 268.
*Galvanocautery in Treatment of Corneal Ulcers. De *Saint-Martin.*—p. *271.*
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Otorhinolaryngology in 1925. L. Baldenweck.—p. 282.
Tonsillotomy and Tonsillectomy. A. Moulonguet.—p. 289.
Serous Sinusitis. M. Jacod.—p. 294.
Retropharyngeal Abscesses. H. P. Chatellier.—p. 299.
Lermoyez' Dry Otitis. J. Durand.—p. 302.
Vincent's Angina. M. Bouchet.—p. 306.
*Cancer of the Vocal Cords. Guérin.—p. 311.
Foreign Bodies in Trachea and Bronchi. E. P. Granet.—p. 314.

Archives Franco-Belges de Chirurgie, Brussels

28: 845 936 (Oct.) 1925

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*Sympathectomy for Trophic Disturbances J Diez—p 875
Bone Changes After Peripheral Denervations K F. Koch—p. 911.

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*Sympathectomy for Lumbar Pains, O. Bittmann.—p. 757.
*Pedunculated Bone Grafts. J. Curtillet and R. Tillier.—p. 789.
Different Cartilaginous Formations in the Epiphysis and Their Rôle in Growth of the Bone. J. Franceries.—p. 805.
An Anomaly of the Biliary Passages. L. Desgouttes and A. Ricard.—p. 823.
Operative Closure of Artificial Anus. E. Pollosson and H. Comte.—p. 827.

Periarterial Sympathectomy for Pains in Lumbar Region.—Bittmann remarks that these pains are the most resistant of all symptoms to yield to treatment, and that in all medicine nothing else has elicited such a variety of ideas as to pathogenesis and treatment. In 6,240 gynecologic patients in a recent two years, at Brno, lumbar pains were the predominant complaint in 2,124 cases. In nine of these he decorticated the abdominal aorta for a stretch of 8 or 12 cm., including 4 cm. on the common iliac artery. The constant success of the intervention apparently confirmed his assumption that the pains are due to a visceral neurosis, and that the celiac plexus serves as a kind of central station to relay the impulses. He aims in treatment to block these efferent impulses by the periarterial sympathectomy, supplemented by removal of the inferior mesenteric ganglion. This does not remove the primary cause, but it blocks transmission of the pain reflex, and the lumbar pains are cured. He insists that it is not a dangerous operation, and that it has always answered the purpose in cases of secondary asthenia rebellious to all conservative measures.

Pedunculated Bone Grafts.—Curtillet and Tillier describe with illustrations three typical cases of pseudarthrosis of the tibia to show the indications for and the advantages of using a pedunculated graft for a neighboring or even a distant bone. The graft may be taken from the recipient bone itself, at a higher level, cutting a slanting pedicle in the soft parts with its base on the other bone, this base being on a level with the gap to be bridged by the graft.

Médecine, Paris

7: 243-320 (Jan.) 1926

Ophthalmology in 1925. A. Cantonnet.—p. 243.
*Preventive Treatment of Myopia. F. Terrien.—p. 249.
Diplopia. Chevallereau.—p. 254.
Acute Glaucoma in General Pathology. A. Terson.—p. 256.
Treatment of Senile Ectropion of the Lower Lid. Aubaret.—p. 261.
Eye Lesions in Epidemic Encephalitis. F. Bourdier.—p. 265.
The Retinal and the Cerebral Circulation. P. Bailliart.—p. 268.
*Galvanocautery in Treatment of Corneal Ulcers. De Saint-Martin.—p. 271.
Rémy's Diploscope. P. Jeandelize.—p. 273.
Otorhinolaryngology in 1925. L. Baldenweck.—p. 282.
Tonsillotomy and Tonsillectomy. A. Moulonguet.—p. 289.
Serous Sinusitis. M. Jacod.—p. 294.
Retropharyngeal Abscesses. H. P. Chatellier.—p. 299.
Lermoyez' Dry Otitis. J. Durand.—p. 302.
Vincent's Angina. M. Bouchet.—p. 306.
*Cancer of the Vocal Cords. Guérin.—p. 311.
Foreign Bodies in Trachea and Bronchi. E. P. Granet.—p. 314.

Preventive Treatment of Myopia.—Terrien believes that instillation of a weak miotic may not only check the progress of mild near-sightedness in school children, but may even improve vision. The treatment is still more advisable, as certain forms of myopia seem to be due to glaucoma. He suggests regular instillations morning and afternoon of a 1 per three hundred solution of pilocarpine nitrate. The vasodilatation, favoring the nutrition of the eyeball, as well as the resting of the eyes under the contracted pupil, may explain the beneficial action of the treatment. The contraction of the pupil under the miotic is not accompanied by undesirable contraction of the ciliary muscle.

Galvanocautery in Treatment of Corneal Ulcers.—De Saint-Martin has used the galvanocautery in ulcerating nongonorrheal keratitis, caused mostly by the pneumococcus. The spread of the ulcer was arrested at the first application; sometimes a second was needed, rarely a third. The hypopyon rapidly subsided, disappearing in twenty-four hours. In old cases, daily applications of iodized chloroform, or injections of milk were sometimes added He emphasizes that with the galvanocautery vision may be preserved better than with the Saemisch operation

Cancer of the Vocal Cords.—In Guérin's opinion, radium or roentgen-ray treatment should always follow—not precede—an operation for cancer of the vocal cords It seems that radium may be even preferred, especially applied externally He regards Escart and Laval's radium therapy through a thyroid window as great progress

7: 325 400 (Feb) 1926

French Neurology in 1925 Laignel-Lavastine —p. 325
*Serum Treatment of Poliomyelitis Étienne —p. 349
Meningeal and Vascular Permeability Cestan et al —p 351
Diagnosis of Lesions of the Infundibulum and Pituitary G Roussy and G Levy —p 356
Paralysis from Antiserum Treatment P Sainton —p 364
Familial Diseases of the Nervous System O Crouzon —p 373
Myalgia Simulating Sciatica H Verger —p 379
Neuritis in Diabetes Mellitus L Ingelrans —p 381
Regulating Apparatus of Psychic Functioning J Lhermitte —p 386
Lipiodol in Localization of Brain Tumors H Schaefer and P Baron. —p 391

Antiserum Treatment of Poliomyelitis.—Étienne treated with serum fourteen cases of acute myelitis in adults. He used Pettit's poliomyelitis antiserum, prepared at the Pasteur Institute in Paris In one case of the fulminating form, with generalized paralysis, 80 cc of the serum was given subcutaneously. Slight movements reappeared within forty-eight hours. The patient improved by the fifth day, was able to walk by the twelfth, and recovery was soon complete. In a subacute case with bladder disturbances and paraplegia, improvement occurred by the third day; a month later the man went back to work as assistant superintendent of a large railroad station. In a case of extensive paraplegia, with bulbar phenomena, the speech improved, and the patient recovered in a few days. A patient, treated with the serum only two months after the onset of the disease, began to walk in six days. Similar results were obtained in an old case of eleven weeks' standing when treatment was begun. A dose of 300 cc. may be sometimes needed; in cases with prolonged course and successive involvement of the spinal cord, medulla and brain, a total of 2,200 cc. of the serum was required. In recent cases, 100 cc. of the antiserum is the usual dose, given partly by intraspinal injection.

Permeability of Meninges and Vessels.—Cestan, Riser and Laborde recall that although the nerve centers are laved by the cerebrospinal fluid, the latter does not penetrate into the nerve cell. Consequently, the subarachnoid route cannot be utilized for treatment of a diffuse process, such as encephalitis. Therefore injections by the vein are indicated for this. If an active drug, like the arsenicals, could be associated with neurotropic substances, passing readily through the walls of the vessels, an elective action on the nerve cell might be attained, but this has not been realized to date.

Paris Médical

59: 241-256 (March 13) 1926

The Mechanical Syndrome from Portal Hypotension Surmont.—p 241.
False Tumors of the Mammary Gland A Schwartz —p. 249
Arteritis in Diabetes. E. Doumer and A Patoir.—p. 251.
Ergot Preparation in Treatment of Hemorrhage from Uterine Cancer. J. Thomas —p 255.

59: 257-289 (March 20) 1926

Nature and Heredity of Cancer. Maud Slye.—p. 257.
Experimental Research on Spindle-Cell Sarcomas of Fowls. A. Carrel. —p 274
*Parasitic Origin of Cancer. R. Vinzent.—p. 284.

Recent Works on Parasitic Origin of Cancer.—Vinzent reviews recent works on cancer published in America and England. New data have been presented on transmission of malignant disease by inoculation with filtrates and production of cancer by inoculation with bacterial cultures. If these data are confirmed, cancers must be classified in two groups: the filtrable sarcoma type, and the nonfiltrable, liable to be induced by physical agents (roentgen-rays, etc.), chemical, or biologic factors, parasites or bacteria. Vinzent emphasizes that no experimental proof has been given yet whether parasites act directly by toxins, or by transporting with them an invisible virus—a virus which later lives in symbiosis with the cancer cells.

Presse Médicale, Paris

34: 305 320 (March 10) 1926

Suprapubic Transperitoneal Cesarean Section. A Brindeau —p. 305.
Nonprogressive Dementia Conditions from Syphilis L. Marchand et al. —p 308
Tuberculosis of the Larynx. L. de Reynier.—p. 310
Tryparsamide in Trypanosomiasis. Abbatucci —p. 315.

34: 321-336 (March 13) 1926

Motility and Tonus of the Muscles in Parkinsonian Conditions. R. Cruchet —p 321
Purified Antiserums G. Ramon.—p 323.
Secondary Streptococcus Endocarditis. Marchal and Jaubert —p 324.

Galvanocautery in Treatment of Laryngeal Tuberculosis.—De Reynier reports, among others, three cases in which galvanocauterization was followed by excellent local results. Pronounced infiltration of the arytenoids and epiglottis, as well as extensive ulcerations of the false cords and epiglottis disappeared in two or three months, after having persisted for months and years. In a case of tuberculosis of the tongue of over four years' standing the lesions disappeared within two months In another, ulceration of the lip healed in two months after two applications. Cicatrization of the tuberculous lesions of the larynx and elbow was manifest in the third case He asserts that similar results were obtained in hundreds of cases during the last twenty years. The influence of the galvanocautery may be due partially to afflux of leukocytes and subsequent phagocytosis. Under the action of heat, the adjacent healthy cells may produce antitoxins or retain those of the blood, thus acting on the tuberculous tissues. The galvanocautery was beneficial likewise in treatment of syphilitic gumma of the larynx A syphilitic infiltration of the arytenoids subsided almost entirely at one sitting of galvanocauterization The healing of the larynx did not influence in any way the tuberculous process in the lungs.

34: 337-352 (March 17) 1926

Hemorrhagic Pachymeningitis in Infants. R. Debré and G Semelaigne. —p 337.
Germ of Multiform Erythema C Levaditi et al.—p. 340
Reorganization of the Army Medical Department T. Tuffier —p 347.

Pachymeningitis in Infants.—Debré and Semelaigne encountered within a recent year five certain and two probable cases of hemorrhagic pachymeningitis in infants; 50 per cent died in the course of the disease. Of the others, one, aged 5 months, left the hospital after two months, in excellent condition Different sequelae developed in the others after clinical recovery: squint, unilateral amaurosis or extraventricular hydrocephalus with muscular spasms. One of the infants developed a specific chorioretinitis; another had a syphilitic father. The third presented characteristic lesions with a positive Wassermann test; in a fourth case the Wassermann test was positive in both infant and mother. These findings suggest that congenital syphilis may be an important, if not the exclusive factor of hemorrhagic pachymeningitis. Specific treatment induced a manifest improvement in three of the patients. Simultaneous mercurial inunctions and bismuth injections are recommended. The symptomatic therapy consists in arresting the hemorrhage; also puncture to reduce the intracranial pressure. Treatment for congenital syphilis may modify conditions enough to ward off grave nervous disease later. In d'Espine's case, hemorrhagic pachymeningitis appeared to be responsible for Little's syndrome, occurring over three years afterward.

Streptobacillus Responsible for Multiform Erythema.—Levaditi, Nicolau and Poincloux relate that one of them developed last year an acute septicemia accompanied by erythema, sore throat and involvement of the joints. After a sudden onset, the disease developed in three attacks within twelve days. The defervescence in each attack was followed by a papulo-erythematous eruption, predominantly on the legs. The presence of two nodules on the forearm completed the picture of a combination of erythema nodosum and acute erythema multiforme. Blood cultures revealed a new germ, which they call *Streptobacillus moniliformis*. Their experiments on rabbits, guinea-pigs and other animals demonstrated the high virulence of the bacillus, its affinity for the skin and joints, and also the immunity induced by it. They describe with illustrations the technic which enabled the discovery of the bacillus.

Revue Franç. de Gynécologie et d'Obstét., Paris

21: 65-143 (Feb.) 1926

Twin Pregnancy in Double Uterus. G. Dujol.—p. 127.
Obliteration of Cervix Compelling Hysterectomy. F. Jullien.—p. 128.
Ovum from Right Ovary Reaches Uterus Through Left Tube, with Normal Gestation. R. Slivinsky.—p. 129.

Revue Neurologique, Paris

1: 1-128 (Jan.) 1926

*Basal Metabolism with Acromegaly. R. Cestan et al.—p. 1.
Vital Staining for Exploration of the Nervous System. E. Flatau.—p. 5.
Clinical Value of Paradoxic Flexor Reflex. A. Gordon.—p. 11.
Skin Reflex of the Chin. A. De Castro.—p. 15.
The Foot Clonus. A. Rouquier and D. Couretas.—p. 17.

1: 129-288 (Feb.) 1926

Transmission of Stimuli by Nerve Influx. L. Bard.—p. 129.
Palilalia in Postencephalitic Parkinsonism. R. Rordorf and G. Cocchiararo.—p. 144.
Multiple Tumors of the Meninges. M. Krivy.—p. 154.

Basal Metabolism in Acromegaly.—Cestan, Sendrail and Lassalle report two cases of acromegaly; in one the basal metabolism was increased, in the other decreased. Radiograms showed only enlargement of the sella turcica in the first case; in the second case, which was of the adipose-genital type, *there may have been simultaneous lesions of the* infundibulum.

Schweizerische medizinische Wochenschrift, Basel

56: *217-240 (March 13) 1926*

Sanocrysin Treatment. R. Staehelin.—p. 217.
*Hemophilia. A. Collaud.—p. 219.
*Casein a Diuretic. A. Jarotzky.—p. 226.
*Paradoxical Insulin Phenomenon. W. Fornet and E. Christensen.—p. 228.
Sulphur and Iodine in Surgical Tuberculosis. G. Amsler.—p. 230.

Hemophilia.—Collaud found no correlation between the sedimentation speed and the coagulation time in two hemophiliac patients. The stability of the fibrinogen, as measured by its precipitation by electrolytes, is probably in some relation with the sedimentation speed but not with the coagulation time. Accelerated sedimentation preceded spontaneous hemorrhages.

Casein a Diuretic.—Jarotzky modifies the Karell treatment in heart disease as follows: He gives daily for three days 600-800 Gm. of cottage cheese with 100-200 Gm. of sugar and 100 Gm. of sour cream. No other fluids are allowed. He prefers this "urea treatment" in all the cases in which mercurial preparations have been hitherto used to induce diuresis (Gelpke's calomel cure, etc.).

Paradoxical Insulin Phenomenon.—Fornet and Christensen injected rabbits six times daily with 10 units of insulin for three days. They observed a transient glycosuria on the second day after discontinuing the injections. They also prepared pills *containing 3 units of insulin* with dried ox bile and licorice powder and administered six of them three times daily for three days to a healthy man and three to another. They also had glycosuria on the second day after the administration was suspended. This shows the necessity for caution in decreasing the insulin units, as well as the action of insulin by the mouth.

Policlinico, Rome

33: 293-324 (March 1) 1926

Soil on Which Dermatoses Develop. A. Grandinetti.—*p. 293.*
*Appendectomy on Principle. G. Gucci.—p. 298.
Campaign Against Tinea. O. Alberti.—p. 301.
Apparatus for Pneumothorax. S. *Pisani*.—p. *305*.

Appendectomy on Principle.—Gucci reports twenty-one successful appendectomies in the acute stage. This brings *Bastianelli's statistics to 260, with a mortality of 2.23* per cent. This list includes some grave cases.

33: *325-359 (March 8) 1926*

Mastoditis. G. Bilancioni and S. Traina.—p. 325.
Traumatic Spondylitis. Francesco Basenghi.—p. 330.
Fracture of Scaphoid Bone. M. Margottini.—p. 332.
Intrathoracic Pressure in Pneumothorax. E. Curti.—p. 334.
*Quinine in Prevention of Malaria. D. *Falcioni.—p. 338.*

Quinine in Prevention of Malaria.—Because of the fact that the anopheles does not migrate, Falcioni recommends to restrict the quinine preventive treatment to the inmates of the house of the carrier of the gametes, if the farms are isolated. An energetic and universal quinine prophylaxis is necessary in communities with a high percentage of carriers of gametes, especially when the population comes into closer contact during the harvesting time.

33: *129-176 (March 1) 1926.* Medical Section

*The Reticulo-Endothelia and Poisons. F. Guccione.—p. 129.
*Spleen and Nitrogen Metabolism. S. Marino.—p. 158.

The Reticulo-Endothelial Apparatus and Poisons.—Guccione removed the spleen in dogs, rabbits and guinea-pigs and studied the action of various hemolytic poisons. The resistance varied with the species and the poison. It increased in some after splenectomy (especially in dogs) and decreased in others. Infiltrates, fatty degeneration and necrosis of the liver certainly contributed to the death of the animals.

Spleen and Nitrogen Metabolism.—Marino found an increased amount of urea and decreased amount of ammonia and amino-acids in the urine of splenectomized dogs. The intestinal utilization of proteins was lower than before.

Boletin de la Soc. de Cirugía de Chile, Santiago

3: 265-286, 1925

*Amebic Infection of the Adnexa. Rudecindo de la Fuente.—p. 265.
Chronic Appendicitis. J. Paredes F.—p. *272.*
Carcinoid Tumors of the Appendix. M. Matus H.—p. *274.*
Surgery for Cancer of Uterine Cervix. E. Greene.—p. 278.
Gallstones and Adhesions Binding Splenic Angle. A. Constant B.—p. 281.
Edema of the Larynx in a Leper. J. M. Barrenechea.—p. 285.

Amebic Adnexitis.—Rudecindo de la Fuente found amebas in the stools of two patients presenting adnexitis and other symptoms, and under emetine and arsenicals a complete cure was realized. In the first case the adnexitis was acute, and *lesions in the uterine cervix deceptively simulated cancer.* The uterus was removed but no trace of malignant disease was found. If the supposed cancer had been examined for amebas, the hysterectomy might have been avoided. After treatment of the amebiasis, the sigmoiditis and perisigmoiditis rapidly subsided. In the second case, the adnexitis was of long standing and had been treated medically at different times. The adnexitis was on the left side, as in the first case, with concomitant sigmoiditis and perisigmoiditis and amebas in the mucous secretions in the cervix. Under emetine the whole pelvic clinical picture subsided without a trace.

Gaceta Médica de México, Mexico City

56: 275-368, 1925

A. J. Ochsner's Treatment of Acute Appendicitis. U. Valdés.—p. 275.
Wassermann Reaction in the Nonsyphilitic. E. Escomel.—p. 288.
Notes on Malaria. Ramon Pardo.—p. 292.
Endocrines and Pathology of the Eyes. J. de J. González.—p. 296.
*First Hospital in Mexico. N. León.—p. 298.
Treatment of Secondary Cataract. A. F. Alonso.—p. 304.
Transfusion of Blood as a Routine Measure. G. M. Malda.—p. 306.
Venous Stasis Without Weak Pulse. F. de P. Miranda.—p. 316.
Bilateral Subluxation of Crystalline Lens. L. S. Viramontes.—p. 322.

The First Hospital in Mexico.—The Hospital de la Purisima Concepción at Mexico City was founded by Cortez, the conqueror of Mexico, *in 1523*. The last *male descendant of* Cortez drew up the statutes for the hospital in 1612, and this document is reproduced.

Medicina Ibera, Madrid

20: 29-60 (Jan. 9) 1926

*Relapsing Fever in Spain. A. Zamorano y Paramo.—p. 29.

Relapsing Fever Endemic in Toledo District.—Zamorano describes six typical cases out of a large number observed in which persons who had to deal with hogs or had been bitten by ticks from hogs developed fever for two, three or four days, terminating in a sweating crisis and five to eight days of apyrexia, with regular return of the attacks of fever, but thereafter the disease subsided spontaneously after a few attacks In one of the cases reported the hogs were known to be sick at the time Certain cases suggested transmission of the disease by lice from a sick subject.

20: 93-124 (Jan 23) 1926

Pathogenic Mechanism of Intestinal Infection Sanarelli—p. 93 C'cn.
*Calcium Chloride in Therapeutics O Piñerua—p 98

Calcium Chloride in Therapeutics.—Piñerua relates that for twelve years he has been using calcium chloride with good results In a case of acute pulmonary lesions in a man of 50 with hemoptysis and pains in the kidneys, with tubercle bacilli in sputum and urine—the whole clinical picture developing in six months after an attack of influenza—the condition improved remarkably under calcium chloride The fever disappeared in less than three weeks, and by the thirty-fourth injection the cure seemed to be complete, except that an intercurrent otitis has impaired the hearing during the year since In a case of extensive and extremely painful tuberculous peritonitis in a boy, aged 12, a daily injection of 2 Gm of calcium chloride in 10 cc of water was given by the vein to a total of forty injections, when the boy was discharged completely cured In some of the numerous cases treated with the calcium chloride there was a reaction to the first injection amounting almost to actual shock, but it was transient in all.

Klinische Wochenschrift, Berlin

5: 297-344 (Feb. 19) 1926

Substances Resembling Insulin M Nothmann—p 297.
Gold in Chemotherapy A Feldt—p 299
Diabetes in Children R Priesel and R Wagner—p 301.
*Electrocardiogram of the New Born L Doxiades—p 303
The Basis of Metasyphilis P Dorr—p 304
Bacteriology of the Duodenum J Olivet—p 307
*The Herpes Question S Minami and I Ehara.—p. 310.
Perforations of the Uterus S Joseph—p 314
*Diagnosis of Incipient Tuberculosis F Jessen—p 316
"Salt, Fasting and Gastric Secretion" H Hoffmann—p 318
"Percutaneous Iontophoresis" F Wirz Reply H Rein—p 319
"Metabolism of Tumor Cells" Bauer and Nyiri and Warburg—p 320.
*Disappearance of Dyes A Wittgenstein and H A Krebs—p 320
*Amidopyrine and the Intestine H Januschke and F Lasch—p 321.
*Blood Groups in Hemophilia A Kubanyi—p 321
Treatment of Ozena A Lautenschlager—p 322
Welfare Work for Child Waifs in Berlin E Nassau—p 325
Gastric Secretion. E. Leschke—p 342
Reading of Microreactions. M. Gross—p 342

Electrocardiogram of the New-Born.—Doxiades obtained electrocardiograms from ten normal infants immediately after birth The P and T waves were absent during the initial apnea, and the R was inverted With the beginning of respiration, a rapidly increasing R and T wave appeared.

The Herpes Question.—Minami and Ehara found the rabbit testis better adapted for research on herpes than the cornea or the brain Positive and practically identical results were obtained with inoculation of febrile and genital herpes and of zoster. They regard these three diseases as identical. Chickenpox gave negative results.

Diagnosis of Incipient Tuberculosis.—Jessen draws attention to a delicate pink filling of the blood vessels of the edge of the eyelids (not a chronic inflammation of the meibomian glands) which he finds frequently in beginning pulmonary tuberculosis. A circumscribed redness of the cheeks—especially of one cheek—is a sympathetic reflex from the diseased lung Fatigue in school should lead to an examination for tuberculosis Palpitations may be caused by pressure from the bronchial lymph nodes on the vagus or by direct toxic action on the heart muscle. Gastric disturbances and amenorrhea may be due to pulmonary tuberculosis A short dry cough, especially with movements, with negative findings in the pharynx, may be a sign of tuberculosis. In auscultation of the voice, a change of the loud long *a* (continental *e*) into a *oo*, *o*, or *ee* indicates infiltration of the parenchyma. A temperature over 36.9 C. (98.5 F.) in the mouth, or 37.2 (99 F.) in the rectum is abnormal. The slight rises in temperature characteristic of tuberculosis occur at noon; with mixed or other infection, in the evening. The roentgen rays may furnish a good confirmation of the clinical diagnosis. Alone, they are hardly of any value in diagnosis of incipient tuberculosis, especially if the roentgenologist is not an expert.

Disappearance of Dyes from the Blood.—Wittgenstein and Krebs found a rapid disappearance from the circulation of intravenously injected basic dyes. Acid dyes remain in the blood plasma much longer, especially the colloidal ones. Water blue was found as late as two months after the injection A greater absorption by the protoplasm of the cells explains the rapid disappearance and the high toxicity (0.2-0.8 Gm per five kilograms of body weight) of the basic dyes

Amidopyrine and the Intestine.—Januschke and Lasch found a lowering of the tonus of surviving intestine in weak solutions of amidopyrine. This explains the clinical observation on the spasmolytic action of 0.05 Gm. of the substance in infants, while the peristalsis was not impaired.

Blood Groups in Hemophilia.—Kubányi found that his hemophilic patient as well as the latter's mother and sister belonged to group II (A), while his healthy brothers belonged to group III (B).

5: 345-392 (Feb. 26) 1926

Fat in Diabetic Diet E Grafe—p 345.
*Skin Diseases on Buccal Mucosa. J. Jadassohn.—p. 348.
Infection Psychoses E Herz—p 350.
*Generalized Emphysema W Reimold—p. 352.
Calcium in Hypertension. W Loewenstein.—p 354.
Serodiagnosis in Syphilis A Klopstock and A. Hilpert.—p. 359.
Subacute and Chronic Gastritis. J. Vándorfy.—p. 361.
Treatment of Pyelitis O A Schwarz—p. 362.
*Cultivation of Cannabis E. Joël.—p 364.
"Microhistology of Calcium" C. R. H. Rabl—p. 365.
Cause of Haff Disease H. Wieland—p. 365.
The Neuron Theory P. Schröder.—p. 366.
*Endocrine Action of Gonads. E. Kylin—p. 367.
*Action of Fat and Thyroid I Abelin.—p. 367.
Idiopathic Digestive Insufficiency. A. Mader.—p. 367.
Medical Impressions from Central Asia Kuczynski.—p. 370. C'cn, p 422.
Phagocytosis E. v Philipsborn.—p 373.

Skin Diseases.—Jadassohn observed frequently (for instance, in 75-92 per cent of cases of lichen ruber) a localization of skin diseases on the inner surface of the cheeks opposite to the teeth This region contains—unlike other mucous membranes—sebaceous glands, and is prone to pigmentation—even in the melanodermia of vagrants. It is probable that this region, as Schumacher found, developed by coalescence of the embryonic broader mouth.

Generalized Emphysema.—Reimold's patients were two children—18 months and 2 years of age—with mediastinal and subcutaneous emphysema. The prognosis in such cases is grave He made a transverse incision, 5-6 cm. long, in the jugular fossa, to allow the air to escape, and put the children for a few days into an oxygen chamber while keeping them somnolent with phenobarbital sodium. They recovered.

Cultivation of Cannabis.—Joël is opposed to the intended planting of cannabis in Germany. It is used therapeutically there only as addition to plasters for eradication of corns. The danger of its misuse is great.

Endocrine Action of Gonads.—Kylin prepared alcoholic extracts from testes and ovaries. He found that they lower the blood sugar and blood pressure in the corresponding sex.

Action of Fat and Thyroid.—Abelin observed with Miyazaki a checking of thyroid function on feeding with fat. The basal metabolic rate as well as the specific dynamic action was lower than with thyroid feeding alone, and the glycogen did not disappear from the liver.

Medizinische Klinik, Berlin

22: 317-356 (Feb 26) 1926

Neurodermatitis K Herxheimer.—p 317
Vocational Tests E Hörnicke and Bruns—p. 319.
Treatment of Syphilis O Kren et al.—p. 324. C'cn.

*Desiccated Milk for Children. A. Czerny.—p. 326.
*Conduction Anesthesia in Fractures. W. Müller.—p. 327.
*Vaccination Against Typhoid. W. Spät.—p. 328.
Bronzed Diabetes. F. Hirsch.—p. 329.
Aspiration Massage in Moor Baths. H. Cramer.—p. 330.
Sedimentation Test in the Tuberculous. W. Lorentz.—p. 331.
Pleural Empyema. E. Mühsam.—p. 331.
*Dysimmunity. H. Much.—p. 334.
*Inactivation of Serum. T. Ohashi.—p. 337.
Hemoptysis and Occupational Accident. W. Brandis.—p. 338.
Present Status of Pulmonary Tuberculosis. H. Gerhartz.—p. 340.
Idem of Ophthalmology. W. Gilbert.—p. 343.
Extrapulmonary Tuberculosis in Children. E. Nobel. Supplement.—pp. 1-56.

Desiccated Milk for Children.—Czerny prefers dried milk not only to canned products but even to pasteurized milk. The dried milk should contain all the fat of the original and no additions, such as sugar.

Blocking the Nerve in Treatment of Fractures.—Müller describes the technic used at Läwen's clinic. Anesthesia of the brachial plexus in fractures or dislocations of the upper extremity, and anesthesia of the sciatic, the femoral, obturator and lateral cutaneous femoris nerves in accidents affecting the lower extremity make the reduction easy and painless. Besides this, the complete relaxation of the muscles, lasting for several hours, contributes to the restitution. Roentgen control during and after reposition is made much easier by it.

Vaccination Against Typhoid.—Spät believes that preventive vaccination against typhoid increases the predisposition for the disease in the first three months.

Dysimmunity.—Much finds that a conception of wrongly directed immunity is necessary for explanation of many immunologic phenomena. For instance, the strong reaction in tuberculosis against one partial antigen may inhibit the reaction against the lipoid, which is more important. Idiosyncrasies are another example of dysimmunity, not of a merely quantitative difference. Lymphogranulomatosis is an instance of dysimmunity of the lymph nodes; lupus, of the skin.

Inactivation of Serum.—Ohashi had almost identical results with inactivation of the serum at 60 C. for five minutes as with the usual half hour at 55 C. He has, however, the impression that the latter method strengthens the Sachs-Georgi reaction, the former the Wassermann. He prefers the former method.

Münchener medizinische Wochenschrift, Munich

73: 353-392 (Feb. 26) 1926

*Motility of Biliary Passages. H. Kalk and W. Schoendube.—p. 353.
*Reaction to Wedlock. A. Mayer.—p. 356.
*Diphtheria with Active Immunity. M. Haidvogl.—p. 358.
Deforming Arthritis from Accident. P. Ewald.—p. 360.
By-Effects of Cinchophen. F. Schilling.—p. 362.
Transportation of the Sick. Hügelmann.—p. 364.
Luminography. A. E. Stein.—p. 365.
Preventive Measles Serum. B. Nocht.—p. 366.
*Tabetic Atrophy of Optic Nerve. C. Behr.—p. 366. C'cn.
Gallbladder Diagnosis. K. Hoesch.—p. 369.
Intestines and Pernicious Anemia. Wiechmann and Zinszer.—p. 372.
*Amputation with Infected Joints. F. Pekarek.—p. 373.
Surgery in Diabetic Coma. F. Hesse.—p. 374.

Motility of Biliary Passages.—Kalk and Schoendube injected 2 cc. of pituitary extracts in twenty-two patients with catarrhal jaundice. No dark bile was obtained by the duodenal tube during the stage of increase and at the height of the jaundice. After this, the change occurred rapidly in some of the patients, slowly in others. They believe that the jaundice might have been caused by a contraction of small biliary ducts in the former group, and by disease of the liver parenchyma in the latter. They explain the absence of the reflex at the height of the disease by the assumption that the gallbladder is empty. Cholecystography seems to confirm this opinion.

Reaction to Wedlock.—Mayer surveys the changes which occur in matrimony. The women increase in weight, especially around the hips, the infantile uterus frequently grows, even without a pregnancy. The "dysmenorrhea of fiancées" disappears, and mental changes occur. He does not attempt to solve the problem of telegonia (transmission of characters of the first mate to children of the second). If proved, it would mean transmission of acquired characters.

Diphtheria with Active Immunity.—Haidvogl obtained a positive Schick test in twelve of thirty children with diphtheria. Five of them had 0.04-0.45 antitoxin units per cubic centimeter of their serum.

Tabetic Atrophy of Optic Nerve.—Behr's investigations indicate that the atrophy of the optic nerve in tabes is not a direct sequel of the action of the spirochete. The real cause is a disturbance of the nourishment of the nerve due to sclerosis of the system of glia fibers, which is caused by the spirochetes. A disturbance of the adaptation to darkness may occur earlier than any other sign. It always points to a diffuse affection of the optic nerve. Arsphenamine and bismuth are apt to aggravate the condition.

Amputation with Infected Joints.—Pekarek reports good results with Spitzy's method. In septic diseases of the joints, a rapid preliminary amputation at one level is made with knife and saw or with a specially constructed saw which cuts the soft parts as well as the bone. The septic part is removed and after revision of the bursae and other parts, the surgeon can proceed with a clean amputation.

Zentralblatt für Chirurgie, Leipzig

53: 513-576 (Feb. 27) 1926

*Occlusion After Gastro-Enterostomy. O. M. Chiari.—p. 514.
Encephalography After Bullet Wound. H. Schum.—p. 517.
*Periarterial Sympathectomy. G. M. Gurewitsch.—p. 521.
Local Anesthetics. F. Kazda.—p. 526.
**Experiments on Treatment of Hernia. W. R. Chessin.—p. 529.*
Dislocation Fractures of the Spine. D. Girogacopulo.—p. 533.
Stomach Resection and Jejunal Ulcer. J. Galpern.—p. 535.
*"Transplantation ot Vessels." R. Weglowski.—p. 539.
Idem. N. Kozlowsky et al.—p. 540.
Accretion of Plica Alaris. A. Nussbaum.—p. 540.

Intestinal Occlusion After Detachment of Gastro-Enterostomy Loop.—Chiari's patient had disturbances after gastro-enterostomy. The adhesions were therefore severed and the loop of the intestine separated from the stomach which was joined to the duodenum after resection of the pylorus. The patient returned four years later with signs of intestinal occlusion. It was due to invagination provoked by a tumor which had the characters of gastric mucosa. It had evidently developed from the part of the stomach left in the intestine after release of the gastro-enterostomy.

Periarterial Sympathectomy.—Gurewitsch believes that periarterial sympathectomy kills the blood vessel. Only its nourishment from the inside remains. Simple irritation of the adventitia has the same results as sympathectomy. He regards the latter as contraindicated, because its sequels are harmful and the benefit is slight.

Experiments on Treatment of Hernia.—Chessin concludes from his experiments that in inguinal hernia the suture of the muscle (Bassini's principle) should be abandoned.

"Transplantation of Vessels."—Weglowski claims to have obtained good results, contrary to Zabludowski's statement reported in these columns.

Zentralblatt für Gynäkologie, Leipzig

50: 513-576 (Feb. 27) 1926

*Bilirubin in Pregnancy. H. Eufinger and C. W. Bader.—p. 514.
*Dienst's Pregnancy Test. W. Vogel.—p. 517.
Modified Abderhalden Test. G. Musa.—p. 520.
"Early Sign of Pregnancy." S. Weissenberg.—p. 524.
Meningoencephalitis Simulating Eclampsia. Joseph and Rabau.—p. 525.
Sedimentation Technic. K. Herold and H. Gueffroy.—p. 529.
Serology of Cancer. K. Volkmann.—p. 531.
Remnants of Decidua. P. Rissmann.—p. 532.
*Vaginal Douches. E. Schwarzkopf.—p. 533.
Mercury Poisoning from the Vagina. M. Magid.—p. 537.
*Menstrual Herpes. R. Blum.—p. 540.
Avulsion of Vagina in Labor. B. Oelschlägel.—p. 541.
Artificial Vagina. R. Franz.—p. 545. Idem. Tikanadse.—p. 547. Idem. Parsamow.—p. 550.
Female Hormone. S. Loewe.—p. 551.

Blood Bilirubin in Pregnancy.—Eufinger and Bader found progressively increasing amounts of bilirubin giving the indirect reaction in the serum from 123 healthy women in the last months of pregnancy. While they never observed a direct reaction in this group, it was present in eight of twenty women with hyperemesis. The test paralleled the clinical ty of the symptoms It indicates a real injury of the —perhaps a hypertonic-spastic retention of bile in phal sense In ten cases of simple nephropathy of ancy, only the indirect reaction was obtained. The t reaction was strong in eight of fifteen eclampsia cases. of them had only slight symptoms from the kidneys. regard Hijmans van den Bergh's test in all pregnancy as just as important as the examination of the or determination of the residual nitrogen

Dienst's Pregnancy Test.—Vogel found no difference n the serum from seventy pregnant and nonpregnant when using Dienst's antithrombin pregnancy test.

inal Douches.—Schwarzkopt confirms the improvement e vaginal flora and decrease in puerperal morbidity after aily irrigation of the vagina with a 0.5 per cent solution of actic acid in the last weeks of pregnancy Alkaline irrigation mpairs the condition in about the same percentage as it improves it

Menstrual Herpes.—Blum observed a herpes of the cheek occurring regularly with the menses unless he gave the woman an injection of 0.2 Gm of sodium cacodylate on the day before the expected period

Zentralblatt für innere Medizin, Leipzig

47: 185-200 (Feb 27) 1926

Neurose K Kjaw —p 186

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 321-412 (Jan 23) 1926

*Medical Writings G van Rijnberk —p 322
*Cyclic Forms of Schizophrenia E A D E Carp —p 328
*Vitamin C in Milk E C van Leersum —p 338
accine Therapy of Whooping Cough W F Enklaar —p 349
Technic for Giemsa Stain for Blood G C van Walsem —p 351
*Exclusive Milk Feeding of Rabbits E Brouwer —p 353
A Peculiar Scrotal Hernia Senn and van Ravenswaaij —p 356
The Duodenal Tube in Diagnosis of Abnormal Conditions in Liver, Biliary Passages and Pancreas J Neuberg —p 357

Medical Writings.—Van Rijnberk gives a case report written in careless language and the same corrected, to emphasize he importance of care in writing and the absurdity of pedantic terms especially those lugged in from other languages and mutilated in the process His aim is to insist on the use of the pure national tongue

Cyclic Forms of Psychoses.—Carp refers in particular to psychoses on a basis of schizophrenia, discussing ways and means to differentiate the true schizophrenia process from a mere reaction in a schizoid subject He stresses in particular the phenomenologic method of examination, classifying the cases according as the response to stimuli can be influenced or not, and according as the primary mental disturbance had no continuity with the patient's other life experiences The duration of the psychosis—weeks or months in the single attack—throws little if any light on the differential diagnosis. The cyclic cases have a better prognosis In Lange's hundred cases (1923), 77 per cent of the patients were nearly if not entirely free from symptoms during the long remissions.

The Vitamin C Content of Raw and Pasteurized Milk.—Van Leersum's experiments with guinea-pigs testified to the reduction of vitamin C in milk with time and lack of cooling, that the main factor in this reduction is oxidation from nixture with air The guinea-pigs fed with milk through ich air had been driven, all died from the acute scurvy nich developed Other tests confirmed this deleterious influence of air, and that the vitamin C is frequently all lost before the milk reaches the pasteurizing phase. Among the practical conclusions he presents is the necessity for filling the can or bottle of milk to the brim to leave no room for air. He adds that milk seems to have a special absorbing power for oxygen, and that the loss in vitamin C can be calculated from the oxygen content of the sample.

Vaccine Treatment of Whooping Cough.—Enklaar obtained excellent results from the vaccine in 96 per cent of the hundred children thus treated, and is puzzled at the lack of success in the remaining four cases He never saw any harm result except a slight transient infiltration in one child. The vaccine was injected intramuscularly, every second day, from one to five thousand millions of the bacteria, a total of three injections; infants bore these large doses remarkably well. The disease seemed to be conquered by the ninth or tenth day.

Effects of Milk Feeding on Rabbits.—Brouwer reports that anemia, urobilinuria and intestinal hemorrhages were observed in rabbits kept on an exclusive diet of cow's or goat's milk. There was evidently, besides the defective production of hemoglobin, exaggeration of the physiologic destruction of erythrocytes, as demonstrated by the urobilinuria, and the passage of blood through the walls of the capillaries in the intestine.

Acta Pædiatrica, Upsala

5: 225-463 (March 6) 1926

*Erythema Nodosum. A. Wallgren.—p. 225.
Roentgen Diagnosis of Tuberculosis in Children. A. Wallgren—p. 254.
Acrocephalosyndactylia J. De Bruin—p. 280.
*Acidosis in Treatment of Myositis. T. Frölich.—p 294.
*Hemolytic Jaundice. L. Salomonsen.—p 309.
*The Heart and Cod Liver Oil. E Agduhr.—p. 319.
*Treatment with Mother's Serum. I. Jundell.—p. 411.
Transactions of Pediatric Congress N. Malmberg.—p. 422.

Erythema Nodosum. — Wallgren finds that erythema nodosum appears at the moment when the organism becomes allergic to tuberculosis. It represents a tuberculous eruption.

Acidosis in Treatment of Myositis.—Frolich reports the case of a boy, 2 years old, with progressive ossifying myositis. The condition was influenced remarkably well by diet tending to induce acidosis (30-40 Gm. of proteins, 30 Gm. of carbohydrates and up to 140 Gm. of fat daily). The child felt well, although he eliminated up to 0.6 Gm. of acetone daily, and his blood alkali reserve dropped to 34-36 volume per cent.

Hemolytic Jaundice.—Salomonsen found a low color index during the exacerbations of hemolytic jaundice. After the crisis, the index rose rapidly above normal.

The Heart and Cod Liver Oil.—Agduhr observed atrophy, degenerations, necrosis and hemorrhages in the organs of growing mice after addition daily of 0.1 cc. and even 0.02 Gm. of cod liver oil to their food The changes were more pronounced in animals fed on a diet poor in vitamins. The heart was one of the most seriously affected organs. Excrescences in the heart were noted in some of the animals. Edema occurred with these changes. Cats, dogs and calves are less resistant to cod liver oil than mice. He is now seeking to determine the noxious element in the oil.

Treatment with Mother's Serum.—Jundell injected from 12 to 42 cc. of the mother's serum in every alternate infant received He saw no differences in morbidity or resistance between the injected infants and the controls.

Finska Läkaresällskapets Handlingar, Helsingfors

67: 1041-1139 (Dec.) 1926

Tscherning's Photometric Glass in Ophthalmologic Examination. H. U. Moller—p. 1041
*Blood Pressure During Excitement C Tigerstedt.—p. 1054.
Tumors Originating in Nasal Cavities. A Saxen.—p. 1064.
Innervation of Eye Muscles in Nystagmus. O Heinonen.—p 1091.

The Blood Pressure During Excitement.—Tigerstedt compares Alvarez' findings in California students with his own experiences at Helsingfors with groups of students before and after an examination. The excitement of the impending written examination was enough to raise the blood pressure by an average of 15 mm. in the men and 19 mm. in the women, the range being from 0 to 30 mm. Other tests confirmed that even a slight emotional stress is liable to send up the blood pressure and keep it high surprisingly long. The urine gave a positive Nylander reaction at the time of the written examinations. The tests were made with a Recklinghausen cuff and mercury manometer, the subject erect, the arm hanging loose. The average just before the written test was 167 and afterward 155, with seven male students; 157 and 147 for four women students, while the average several days later was respectively, 136 and 128. The blood pressure had thus fluctuated by 38 and 34 mm. of mercury. The blood pressures on the whole averaged higher than Alvarez' figures, which Tigerstedt ascribes to a little apprehension as to the outcome of the tests He tabulates the findings in a total of forty-seven subjects.